

**Upper Cook Inlet Commercial Fisheries Annual
Management Report, 2009**

by

Pat Shields

June 2010

Alaska Department of Fish and Game

Division of Commercial Fisheries



Symbols and Abbreviations

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Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative Code		fork length	FL
deciliter	dL		AAC	mideye to fork	MEF
gram	g	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	mideye to tail fork	METF
hectare	ha			standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted			
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.	Mathematics, statistics	
meter	m			<i>all standard mathematical signs, symbols and abbreviations</i>	
milliliter	mL	at	@		
millimeter	mm	compass directions:			
		east	E	alternate hypothesis	H _A
Weights and measures (English)		north	N	base of natural logarithm	<i>e</i>
cubic feet per second	ft³/s	south	S	catch per unit effort	CPUE
foot	ft	west	W	coefficient of variation	CV
gallon	gal	copyright	©	common test statistics	(F, t, χ^2 , etc.)
inch	in	corporate suffixes:		confidence interval	CI
mile	mi	Company	Co.	correlation coefficient (multiple)	R
nautical mile	nmi	Corporation	Corp.		
ounce	oz	Incorporated	Inc.	correlation coefficient (simple)	r
pound	lb	Limited	Ltd.		
quart	qt	District of Columbia	D.C.	covariance	cov
yard	yd	et alii (and others)	et al.	degree (angular)	°
		et cetera (and so forth)	etc.	degrees of freedom	df
Time and temperature		exempli gratia		expected value	<i>E</i>
day	d	(for example)	e.g.	greater than	>
degrees Celsius	°C	Federal Information Code	FIC	greater than or equal to	≥
degrees Fahrenheit	°F			harvest per unit effort	HPUE
degrees kelvin	K	id est (that is)	i.e.	less than	<
hour	h	latitude or longitude	lat. or long.	less than or equal to	≤
minute	min	monetary symbols		logarithm (natural)	ln
second	s	(U.S.)	\$, ¢	logarithm (base 10)	log
Physics and chemistry		months (tables and figures): first three letters	Jan,...,Dec	logarithm (specify base)	log ₂ , etc.
all atomic symbols				minute (angular)	'
alternating current	AC	registered trademark	®	not significant	NS
ampere	A	trademark	™	null hypothesis	H ₀
calorie	cal	United States		percent	%
direct current	DC	(adjective)	U.S.	probability	P
hertz	Hz	United States of America (noun)	USA	probability of a type I error (rejection of the null hypothesis when true)	α
horsepower	hp				
hydrogen ion activity (negative log of)	pH	U.S.C.	United States Code	probability of a type II error (acceptance of the null hypothesis when false)	β
parts per million	ppm	U.S. state	use two-letter abbreviations	second (angular)	"
parts per thousand	ppt, ‰		(e.g., AK, WA)	standard deviation	SD
volts	V			standard error	SE
watts	W			variance	
				population	Var
				sample	var

FISHERY MANAGEMENT REPORT NO. 10-27

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ANNUAL MANAGEMENT REPORT, 2009**

by

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ABSTRACT

The 2009 Upper Cook Inlet (UCI) area management report describes commercial fishing activities monitored by the Alaska Department of Fish and Game, Division of Commercial Fisheries, in Soldotna. The UCI management area consists of that portion of Cook Inlet north of the latitude of Anchor Point and is divided into the Central and Northern Districts. The Central District is comprised of 6 Subdistricts, while the Northern District includes 2 Subdistricts. At present, all 5 species of Pacific salmon (sockeye *Oncorhynchus nerka*, Chinook *O. tshawytscha*, chum *O. keta*, coho *O. kisutch*, and pink *O. gorbuscha*), razor clams (*Siliqua patula*), Pacific herring (*Clupea pallasii*), and eulachon or smelt (*Thaleichthys pacificus*) are subject to commercial harvest in UCI. The 2008 UCI commercial harvest of 2.5 million salmon was approximately 40% less than the 1966–2008 average annual harvest of 4.2 million fish, while the commercial sockeye salmon harvest estimate of 2.0 million fish was 30% below the 1966–2008 average annual harvest of 2.9 million fish. The 2009 estimated exvessel value of \$14.6 million represented a 13% decrease from average exvessel average value of \$16.8 million from the previous 10-years, but approximately 35% less than the 1966–2008 average annual exvessel value of \$22.3 million. For the 2009 season, 5 of 7 monitored sockeye salmon systems in UCI fell within established escapement goal ranges. The timing of the 2009 sockeye salmon run was estimated to be 2-days early relative to the July 15 mean date, as measured at the UCI Offshore Test Fish transect line.

Key words: Upper Cook Inlet, commercial fishery, personal use fishery, gillnet, escapement, salmon, sockeye, *Oncorhynchus nerka*, Chinook, *O. tshawytscha*, chum, *O. keta*, coho *O. kisutch*, pink *O. gorbuscha*, Pacific herring, *Clupea pallasii*, smelt, eulachon, *Thaleichthys pacificus*, razor clam, *Siliqua patula*, Annual Management Report, AMR.

INTRODUCTION

The Upper Cook Inlet (UCI) commercial fisheries management area consists of that portion of Cook Inlet north of the latitude of the Anchor Point Light (59° 46.15' N. lat.) and is divided into the Central and Northern Districts (Figures 1 and 2). The Central District is approximately 75 miles long, averages 32 miles in width, and is divided into 6 Subdistricts. The Northern District is 50 miles long, averages 20 miles in width and is divided into 2 Subdistricts. At present, all 5 species of Pacific salmon (*Oncorhynchus* spp.), razor clams (*Siliqua patula*), Pacific herring (*Clupea pallasii*), and eulachon or smelt (*Thaleichthys pacificus*) are subject to commercial harvest in Upper Cook Inlet. Harvest statistics are gathered and reported by 5-digit statistical areas and subareas (Figure 3).

SALMON

Since the inception of a commercial fishery in 1882, many gear types, including fish traps, gillnets, and seines have been employed with varying degrees of success to harvest salmon in UCI (Clark et al. 2006). Currently, set (fixed) gillnets are the only gear permitted in the Northern District, while both set and drift gillnets are used in the Central District. The use of seine gear is restricted to the Chinitna Bay Subdistrict, where they have been employed sporadically. Drift gillnets have accounted for approximately 6% of the average annual harvest of Chinook salmon (*O. tshawytscha*) since 1966, as well as 55% of sockeye (*O. nerka*), 47% of coho, 43% of pink (*O. gorbuscha*), and 88% of chum salmon (*O. keta*) (Appendices B1–B5); set gillnets have harvested virtually all of the remainder. However, in the last 10 years (1999–2008), the proportion of the total annual coho (*O. kisutch*), pink, and chum salmon harvest taken by drift gillnets has increased, while the average annual drift gillnet harvest (proportion of the total harvest) of sockeye salmon has decreased. For Chinook salmon, the average annual harvest during the last 10 years has remained fairly stable between gear types.

Detailed commercial salmon harvest statistics for UCI specific to gear type and area are available only back to 1966 (Appendix B6). Run-timing and migration routes utilized by all species overlap

to such a degree that the commercial fishery is largely mixed-stock and mixed-species in nature. Typically, the UCI salmon harvest represents approximately 5% of the statewide catch. Nearly 10% of all salmon permits issued statewide are for the Cook Inlet area.

In terms of their recent economic value, sockeye are by far the most important component of the catch, followed by coho, Chinook, chum, and pink salmon (Appendix B7).

HERRING

Commercial herring fishing began in UCI in 1973 with a modest harvest of bait-quality fish along the east side of the Central District and expanded in the late 1970s to include small-scale sac roe fisheries in Chinitna and Tuxedni Bays (Appendix B8). Beginning in 1988, significant decreases in herring abundance were observed in Tuxedni Bay, as well as a shift towards older age class herring, resulting in the closure of Tuxedni Bay to commercial herring fishing prior to the 1992 season. In Chinitna Bay and along the eastside beaches, similar declines began to materialize after the 1990 season.

As a result of these declines, the Alaska Department of Fish and Game (ADF&G) submitted a proposal to the Alaska Board of Fisheries (BOF) to open the UCI herring fishery by emergency order only. This proposal passed and became regulation for the 1993 season, ending a long period with fixed opening dates of April 15 on the east side and April 22 on the west side of Cook Inlet. This action effectively closed these fisheries to provide time for herring stocks to recover.

In 1998 the Upper Subdistrict of the Central District and the Eastern Subdistrict of the Northern District were opened to commercial herring fishing to assess the status of the herring population. The herring fisheries on the west side of Cook Inlet remained closed until the status of the east side stocks was determined. Prior to the 1999 season, ADF&G again submitted proposals to the BOF, seeking to restructure the herring fishery to two 30-hour periods per week, beginning on Monday and Thursday. These proposals included the condition that fishermen register their intent to participate in the fishery prior to April 10 as well as the requirement that they report their harvests within 12 hours of the closure of a fishing period.

The proposals were passed in the form of a management plan, 5 AAC 27.409 Central District Herring Recovery Management Plan, which became active prior to the 1999 season, and limited herring fishing in UCI to the waters of the Upper, Western, and Chinitna Bay Subdistricts. In the Upper Subdistrict, fishing for herring is not allowed closer than 600 feet of the mean high tide mark on the Kenai Peninsula in order to reduce the incidental harvest of salmon. The management plan was amended by the board prior to the 2002 fishing season, extending the closing date for the fishery an additional 11 days, that is, until May 31.

In 2001, samples of herring were collected in Chinitna and Tuxedni bays. Age, sex, and size distribution of the samples revealed that the years of closed fishing in these areas had resulted in an increase of younger aged fish being recruited into the population. As a result of these analyses, and in accordance with the herring recovery management plan, the commercial fishery was reopened in 2002 in both the Chinitna Bay and Western Subdistricts. The management plan allows for a very conservative harvest quota, not to exceed 40 and 50 tons, respectively. There has been very little participation in either fishery since they were reopened (Appendix B8).

The herring management plan was further modified by the BOF in 2005 and 2008. The Kalgin Island Subdistrict was included in legal waters in 2005 and fishing periods in the Upper Subdistrict were expanded to 108 hours per week, or from Monday at 6:00 a.m. until Friday at

6:00 p.m. Additionally, in 2005, the mesh size for herring gillnets was modified to no smaller than 2.0 inches or no greater than 2.5 inches. In 2008, the 108 hour weekly fishing period went into effect for all areas open to herring fishing and the registration deadline of April 10 was amended to state that fishermen must register any time prior to fishing.

Because the glacial waters of UCI preclude the use of aerial surveys to estimate the biomass of herring stocks, management of these fisheries has departed from the standard techniques employed in the more traditional herring fisheries. Gillnets are the only legal gear allowed in the UCI herring fisheries, with set gillnets being used almost exclusively. This gear type is significantly less efficient at capturing herring than purse seines. Moreover, conservative guideline harvest levels have been set, which provide for a low-level commercial fishery on these stocks. In the Upper Subdistrict, harvests are generally concentrated in the Clam Gulch area, with very little or no participation in either the Western Subdistrict (Tuxedni Bay), Chinitna Bay, or Kalgin Island Subdistricts.

SMELT

Smelt return to many of the larger river systems in Upper Cook Inlet, with particularly large runs to the Susitna and Kenai Rivers. Both longfin smelt *Spirinchus thaleichthys* and eulachon (referred to as smelt in this report, while often identified in local vernacular as hooligan) are documented in Cook Inlet. Smelt begin returning to spawning areas in Cook Inlet generally from mid May to mid June and return in quantities large enough to support a limited commercial fishery. Longfin smelt return to Cook Inlet in the fall of the year and are not targeted because of their small run size.

Prior to adoption of 5 AAC 39.212 Forage Fish Management Plan, the entire UCI area was open to smelt fishing from October 1 to June 1 (Shields 2005). The only documented commercial harvest of smelt occurred in 1978, 1980, 1998, and 1999, with catches of 300, 4,000, 18,900, and 100,000 pounds, respectively. Prior to 1998, fishermen were mistakenly advised that gillnets were the only legal gear for the harvest of smelt. Because primary markets required undamaged fish for bait or marine mammal food, this harvest method was unacceptable. When the interpretation of the regulation was reviewed and changed in 1998, allowing dip nets to be used beginning in 1999, harvests increased to 100,000 pounds, which was the harvest cap at the time. All harvests occurred in salt water near the Susitna River. While no quantitative assessment of the Susitna River smelt stocks has been conducted, it undoubtedly would be measured in thousands of tons, perhaps even tens of thousands of tons.

At the 1998 BOF meeting, the commercial smelt fishery was closed, but the regulation did not take effect until after the 1999 season. In 2000, as part of its draft Forage Fish Management Plan, ADF&G recommended that smelt fishing be restricted to the General Subdistrict of the Northern District. Legal gear would be dip nets only, which had the benefit of eliminating non-target species harvest. The area opened to fishing was designed to target Susitna River smelt stocks. In this draft policy, ADF&G recommended that active forage fish fisheries be allowed to take place in a tightly controlled and closely monitored manner through the use of a commissioner's permit, while not allowing any "new" fisheries to begin. The intent was to allow an active, low-level fishery to continue; however, when BOF adopted the current Forage Fish Management Plan, they chose to close the entire commercial smelt fishery. At the 2005 board meeting, proposals were submitted to reopen the fishery, which the board accepted, authorizing a commercial smelt fishery beginning with the 2005 season. The fishery is conducted under 5

AAC 21.505 Cook Inlet Smelt Fishery Management Plan (Appendix D1). This fishery is allowed in salt water only, from May 1 to June 30, specifically in that area of Cook Inlet from the Chuit River to the Little Susitna River. Legal gear for the fishery is limited to a hand-operated dip net, as defined in 5 AAC 39.105, with the total harvest not to exceed 100 tons of smelt. Any salmon caught during the fishery are to be immediately returned to the water unharmed. To participate in this fishery, a miscellaneous finfish permit is required, as well as a commissioner's permit, which can be obtained from the ADF&G office in Soldotna.

RAZOR CLAMS

The commercial harvest of razor clams from UCI beaches dates back to 1919 (Appendix B9). Harvest levels have fluctuated from no fishery for as many as 8 consecutive years to production in excess of half a million pounds (live weight) in 1922. The sporadic nature of the fishery was more a function of limited market opportunities rather than limited availability of the resource. Razor clams are present in many areas of Cook Inlet, with particularly dense concentrations occurring near Polly Creek on the western shore and from Clam Gulch to Ninilchik on the eastern shore (Nickerson 1975). The eastern shoreline has been set aside for sport harvest exclusively since 1959 and all commercial harvests since that time have come from the west shore, principally from the Polly Creek and Crescent River sandbar areas. A large portion of the Polly Creek beach is approved for the harvest of clams for the human food market. Within this approved area, a limit of 10% shell breakage is allowed, with those clams required to be dyed prior to being sold as bait clams. No overall harvest limits are in place for any area in regulation; however, ADF&G manages the commercial razor clam fishery to achieve a harvest of no more than 350,000 to 400,000 pounds (in the shell) annually. Virtually all of the commercial harvest has come by hand digging, although regulations prior to 1990 allowed the use of mechanical harvesters (dredges) south of Spring Point, or within a 1-mile section of the Polly Creek beach. Numerous attempts to develop feasible dredging operations were largely unsuccessful due to excessive shell breakage or the limited availability of clams in the area open to this gear. Mechanical means of harvesting is no longer permitted in any area of Cook Inlet.

2009 COMMERCIAL SALMON FISHERY

The 2009 UCI commercial harvest of 2.5 million salmon (Appendix B6) was approximately 40% less than the 1966–2008 average annual harvest of 4.2 million fish, with 32 years experiencing greater harvests and 11 years with harvests less than that realized in 2009. This year's sockeye salmon harvest estimate of 2.0 million fish was 30% below the 1966–2008 average annual harvest of 2.9 million fish, with 26 years experiencing greater harvests and 17 years with harvests less than the 2009 harvest. The estimated exvessel value in 2009 of \$14.6 million was approximately 13% less than the average exvessel average value of \$16.8 million from the previous 10-years, but approximately 35% less than the 1966–2008 average exvessel value of \$22.3 million (Appendix B7). The average price paid per pound for UCI salmon has remained fairly stable the past 4 years, preceded by a period of lower than average prices, especially for sockeye salmon, during the early 2000s (Appendix B11). Determining an average annual price in recent years has become increasingly difficult to estimate, as more fishermen are self-marketing their catches rather than selling their harvest to area processors. Moreover, a trend observed in the past few seasons has continued, that being early season Chinook and sockeye salmon catches garnering much higher prices than what is paid later in the season. So, based on the various prices that processors and catcher/sellers reported during the season, the estimated

average price of \$1.10/lb for sockeye salmon in 2009 was the same price received in 2008, which is the second highest value since 1999.

In 2009, 5 of 7 sockeye salmon systems monitored in UCI (Westerman and Willette 2007) met their established goal ranges (Table 1, Appendix A2, and Appendix B10). This marked the first year that sockeye salmon escapement in the Susitna River was not assessed with sonar in the Yentna River. Recent studies revealed that sockeye salmon species apportionment (using the proportion of salmon captured in fish wheels to apportion sonar counts) provided an unreliable estimate of daily and annual passage for this species (for a more detailed description, see the stock status section of this report). While studies continued in the Yentna River, with an important objective being to quantify fish wheel species selectivity, sockeye salmon escapement goals were established on 2 lakes in the Yentna River drainage (Chelatna and Judd Lakes) and 1 lake in the Susitna River (Larson Lake). These lakes are the major producers of sockeye salmon in the Susitna watershed. Escapements were monitored at these lakes with weirs operated by Cook Inlet Aquaculture Association (CIAA). Sockeye salmon escapement was not monitored at Crescent River in 2009, primarily due to safety concerns for employees as a result of numerous eruptions of Mt. Redoubt Volcano early in 2009. The escapement estimate at Packers Lake was made using a remote camera system.

Table 1.—Upper Cook Inlet sockeye salmon goals and escapement objectives, 2009.

System	Goal Type	Goal Range		2009 Escapement
		Lower	Upper	
Crescent River	BEG	30,000	70,000	not monitored
Fish Creek	SEG	20,000	70,000	83,478
Kasilof River	OEG	150,000	300,000	297,125
Kenai River	Inriver	650,000	850,000	745,170
Larson Lake	SEG	15,000	50,000	41,929
Chelatna Lake	SEG	20,000	65,000	17,865
Judd Lake	SEG	25,000	55,000	43,153
Packers Creek	SEG	15,000	30,000	16,473

Note: Escapement estimates do not account for any harvest above counting sites. BEG=biological escapement goal; SEG=sustainable escapement goal; OEG=optimal escapement goal.

UCI commercial catch statistics refined to gear type, area, and date are available back to 1966. All commercially harvested salmon, whether sold or kept for personal use, are recorded on fish tickets and entered into the statewide fish ticket database. The 2009 commercial catch by species, gear type, area, and date can be found in Appendices A3–A7. Total harvest by statistical area and average catch per permit are reported in Appendices A8 and A9. A summary of emergency orders issued in 2009 can be found in Appendix A10, while a summary of fishing periods by gear type and area is summarized in Appendix A12.

REGULATORY CHANGES

Prior to the start of the 2009 Deshka River Chinook salmon sport fishery, Division of Sport Fish announced restrictions based on the uncertainty of their forecast (Emergency Order 2-KS-2-06-09). The amended regulation allowed retention of Chinook salmon in the Deshka River on Saturday, Sunday, and Monday only, from May 15, 2009, through July 13, 2009. Sport fishing was permitted

the other 4 days of the week, but Chinook salmon could not be retained. Because the management plan for this fishery directs ADF&G to take action in the commercial fishery only if the sport fishery is closed, no commercial fishing restrictions were required unless inseason run strength assessment resulted in sport fishing closures. In response to sport fishing restrictions in 2009, however, BOF held a teleconference meeting on April 28, 2009. At this meeting, the board generated and passed an emergency regulation reducing the first 2 commercial fishing periods from 12 hours to 6 hours of fishing time (7:00 a.m. to 1:00 p.m.). These restrictions occurred for the commercial fishing periods scheduled on May 25 and June 1. For a detailed description of other regulatory changes made at the 2008 board meeting, see Shields (2009).

CHINOOK SALMON

The 2009 UCI harvest of 8,750 Chinook salmon was approximately 48% less than the previous 10-year average (1999–2008) annual harvest of 16,687 fish, and 45% less than the average annual harvest of 15,866 fish from the 1966–2008 time period (Appendices A3, B1 and B6). The exvessel value for UCI Chinook salmon in 2009 was estimated at \$267,000, which represented approximately 1.8% of the total exvessel value for all salmon (Appendix B7), or the third smallest Chinook salmon exvessel value in the UCI fishery during the past 10 years.

The 2 fisheries where Chinook salmon are harvested in appreciable numbers occur in set gillnet fisheries in the Northern District and in the Upper Subdistrict of the Central District.

Northern District

The Northern District King Salmon Management Plan (5 AAC 21.366) was created by BOF in 1986 and most recently modified in 2008. This plan provides direction to ADF&G regarding management of the Northern District of UCI for the commercial harvest of Chinook salmon. The fishing season opens on the first Monday on or after May 25, and with the changes made to the management plan in 2008, it now remains open for all Mondays through June 24. However, the most productive waters for harvesting Chinook salmon, which occur from 1 mile south of the Theodore River to the mouth of the Susitna River, is open to fishing for the second regular Monday period only. Prior to the 2005 season, fishing periods were 6 hours long, from 7:00 a.m. to 1:00 p.m. each Monday (Shields and Fox 2005). At the 2005 BOF meeting, fishing periods were expanded to 12 hours per day, or from 7:00 a.m. to 7:00 p.m. Each permit holder is allowed to fish only one 35-fathom set gillnet, with a minimum separation of 1,200 feet between nets, which is twice the normal separation between gear. The commercial fishery is also limited to an annual harvest not to exceed 12,500 Chinook salmon.

In response to the poor Deshka River Chinook salmon run in 2008, and based upon the uncertainty in the 2009 Deshka River forecast, the BOF passed an emergency regulation (described earlier) to reduce commercial fishing time in the Northern District. For the first 2 fishing periods in 2009, which occurred on May 25 and June 1, fishing would be open for 6-hours each period, or from 6:00 a.m. until 1:00 p.m. The third period, June 8, was fished for 12 hours, but the final 2 fishing periods, June 15 and 22, were closed via emergency order (Appendix A10) in response to lagging escapements in the Deshka River.

Approximately 55 commercial permit holders participated in the Northern District Chinook salmon fishery, with an estimated harvest of 1,266 fish (Table 2 and Appendix A3). This was the third smallest harvest in this fishery since its inception in 1986. The number of permit holders participating in this fishery rapidly declined beginning in 1993, which is the year that set

gillnet fishermen were required to register (prior to fishing) to fish in 1 of 3 areas for that year (Northern District, Upper Subdistrict, or Greater Cook Inlet). The registration requirement served to eliminate a common practice of fishing in multiple areas in UCI in the same year.

The relatively small harvests from the Northern District Chinook salmon fishery, which are not strongly correlated with Northern District Chinook salmon run strength, can partly be attributed to (1) poor runs during the mid 1990s, (2) allowing only one fishing period to occur in the area from 1 mile south of the Theodore River to the mouth of the Susitna River, and (3) limitations on gear. The doubling of the fishing time from 6 hours to 12 hours per period beginning in 2005 likely resulted in additional Chinook salmon being harvested, however, the current harvest levels remain significantly below the 12,500 cap placed on this fishery.

The estimated Chinook salmon harvest for all of 2009 in the Northern District was 1,631 fish (Appendices A3 and B1).

Table 2.—Upper Cook Inlet Northern District early season Chinook salmon fishery harvest, 1986–2009.

Year	Chinook	Permits	Periods	Year	Chinook	Permits	Periods
1986	13,771	135	3	1998	2,240	56	2
1987	11,541	129	4	1999	2,259	51	2
1988	11,122	142	3	2000	2,046	47	3
1989	11,068	137	3	2001	1,616	43	3
1990	8,072	130	3	2002	1,747	36	3
1991	6,305	140	4	2003	1,172	29	3
1992	3,918	137	3	2004	1,819	44	3
1993	3,072	80	4	2005	3,144	52	3
1994	3,014	73	2	2006	3,849	59	3
1995	3,837	65	1	2007	3,132	64	3
1996	1,690	45	1	2008	3,855	74	4
1997	894	51	2	2009	1,266	55	3

Upper Subdistrict

In 2009, approximately 64% of UCI's Chinook salmon commercial harvest occurred in the Upper Subdistrict set gillnet fishery (Appendix A3). The estimated catch of 5,600 fish was 45% less than the average annual harvest of 10,200 fish from 1966 to 2008, and 52% below the previous 10-year (1999–2008) average annual harvest of 11,700 fish (Appendix B1). The 2009 sonar estimate of late-run Chinook salmon passage in the Kenai River was 25,688 fish, which is the lowest passage estimate ever observed since the current project began in 1987 (Tony Eskelin, Sport Fish Biologist, ADF&G, Soldotna; personal communication). Estimates of passage are subtracted from the sonar estimates to determine if the biological escapement goal (BEG) for this system was achieved and do not include harvests and mortalities that occur inriver. The current BEG for Kenai River late-run Chinook salmon is 17,800 to 35,700 fish. The BEG for this stock has changed over the years, but since 1987, the escapement goal has been achieved 20 times, been exceeded 2 times, and has never been missed under the current lower end of the range. The

2009 Kenai River late-run Chinook salmon escapement will not be known until results of the statewide harvest survey are finalized, which does not occur until late in 2010.

SOCKEYE SALMON

Management of UCI sockeye salmon fishery integrates information received from a variety of programs, which together provide an inseason model of the actual annual run. These programs include Offshore Test Fishing (OTF), escapement enumeration by sonar, weir, remote camera, and various mark-recapture studies, comparative analyses of historic commercial harvest and effort levels, genetic stock identification (GSI), and age composition studies. Beginning in 2005, a comprehensive sampling program was initiated to estimate the stock composition of sockeye salmon harvested in UCI's commercial fisheries using improved GSI analyses. For a complete review of the GSI analyses, please see Habicht et al. (2007), which summarized the UCI sockeye salmon catch allocation from 2005 to 2007 and Barclay et al. (2010), where updates were made to the 2005 to 2007 analyses and also included 2008 data.

A chartered gillnet vessel is employed by the OTF program to fish 6 fixed stations along a transect crossing Cook Inlet from Anchor Point to the Red River delta (Shields and Willette 2009). The program provides an inseason estimate of sockeye salmon run-strength by determining the passage rate, which is an estimate of the number of sockeye salmon that enter the district per index point (catch per unit of effort or CPUE). The cumulative CPUE curve is then compared to historic run-timing profiles so that an estimate can be made of the final CPUE, which in turn provides for an inseason estimate of the total run to UCI. The timing of the 2009 sockeye salmon run was estimated to be 2-days early relative to the July 15 midpoint measured at the OTF Anchor Point transect line (Shields and Willette *In prep*). Daily catch data from the test fish vessel can be found in Appendix A1.

Hydroacoustic technology is used to quantify sockeye salmon escapement into glacial rivers and was first employed in UCI in the Kenai and Kasilof Rivers in 1968, then expanded to the Susitna River in 1978 and Crescent River in 1979 (Westerman and Willette 2007). Beginning in 2003, ADF&G began a transition phase from Bendix sonar to Dual-frequency Identification Sonar (DIDSON) in UCI. The 2008 season marked the first year that DIDSON was used exclusively (both banks) in the Kenai River (passage estimates were converted to Bendix equivalent units until new escapement goal analyses are completed with DIDSON units). In 2009, DIDSON was used exclusively in the Yentna River, where a multi-year study is underway to assess among other things fish wheel selectivity. Both Bendix sonar and DIDSON were operational in the Kasilof River in 2009, however, the Bendix sonar estimate of passage were used for management purposes. DIDSON will be used exclusively in the Kasilof River in 2010. The transition to DIDSON in the Crescent River is uncertain at this time.

An adult salmon weir was operated by ADF&G, Division of Sport Fish, at Fish Creek (Knik Arm) and provided daily sockeye salmon escapement counts. A counting weir has also been employed at the outlet of Packers Lake since 1988 (Appendix B10). CIAA operated the weir until the year 2000, but since they no longer were stocking the lake with sockeye salmon fry, the project was terminated. In 2005, 2006, and 2009, ADF&G placed a remote video camera system at the outlet of Packers Lake to estimate the adult sockeye salmon escapement into the lake; unfortunately, in 2006 an electronic malfunction did not allow for a complete census of the escapement. CIAA again operated the weir at Packers Creek in 2007, while in 2008, ADF&G, Division of Commercial Fisheries, manned the weir.

ADF&G and CIAA recently completed a 3-year (2006–2008) comprehensive sockeye salmon mark–recapture study in the Susitna River drainage (Yanusz et al. 2007). These studies verified that sockeye salmon passage estimates in the Yentna River were biased low (Appendix A12), with the most likely reason for the bias attributed to fish wheel capture selectivity. As a result, the Yentna River sustainable escapement goal (SEG) was replaced with 3 lake SEGs monitored via weir at Chelatna Lake (20,000 to 65,000) and Judd Lake (25,000 to 55,000), in the Yentna River drainage, and Larson Lake (15,000 to 50,000), located in the Susitna River drainage. For more details about these changes, see Fair et al. (2009), and the stock status section of this report.

At the same time that mark–recapture studies were initiated in the Susitna River drainage, ADF&G conducted a similar program in the Kenai River from 2006 to 2008, estimating the abundance of sockeye salmon migrating past River Mile 19 (Willette et al. *In prep*). In this study, sockeye salmon were captured at the Division of Commercial Fisheries’ sockeye salmon sonar site and marked with Passive Integrated Transponder (PIT) tags. Numerous fixed receivers were placed upstream of the tagging site, as well as at 2 weir sites: (1) Russian River weir operated by Division of Sport Fish, and (2) Hidden Creek, which was operated by CIAA. Sockeye salmon abundance was estimated from tags recaptured in fish wheels operated at River Mile 28 (in 2006 only), as well as from tag recoveries detected from fish passing through Russian River and Hidden Creek weirs. Please see Willette et al. (*In prep*) for further details.

Inseason analyses of the age composition of sockeye salmon escapement into the principal watersheds of UCI provides information necessary for estimating the stock contribution in various commercial fisheries by comparing age and size data in the escapement with that in the commercial harvest (Tobias and Tarbox 1999). Approximately 27,320 sockeye salmon were examined for age, length, and sex determination from catch and escapement samples in 2009 (Terri Tobias, Commercial Fisheries Technician, ADF&G, Soldotna, Alaska; personal communication,). The age composition of adult sockeye salmon returning to monitored systems is provided in Appendix A13.

The UCI preseason forecast for 2009 projected a total run of 4.3 million sockeye salmon (Table 3; Appendix C1). At the time this report was published, harvest information from the 2009 sport fisheries were not available; therefore, sport fishery harvest data were estimated. The 2009 sockeye salmon run estimate of 4.0 million fish was approximately 7% less than the preseason projection. Of the expected run of 4.3 million sockeye salmon, approximately 1.3 million fish were required for escapement objectives, which left 3.0 million sockeye salmon available for harvest to all users in 2009. Assuming that sport and personal use harvests would be similar in proportion to that observed in 2008, the commercial catch in 2009 was projected to be approximately 2.5 million fish; the actual harvest was approximately 2.0 million fish (Appendices A4 and B2), or 20% less than preseason expectations. Drift gillnet fishermen accounted for approximately 47% of the 2009 commercial sockeye salmon harvest, or 0.97 million fish, while set gillnet fishermen caught 53% of the commercial harvest, or 1.08 million fish. The 2009 run was allocated to river system using a weighted age-composition catch allocation method, as described by Tobias and Tarbox 1999. The last reported commercial fishing activity in any area of UCI in 2009 was September 14.

Table 3.—Upper Cook Inlet 2009 sockeye salmon forecast and return.

System	Forecast	Actual	Difference
Crescent River	92,000	187,000	103%
Fish Creek	80,000	122,000	52%
Kasilof River	822,000	845,000	3%
Kenai River	2,441,000	2,498,000	2%
Susitna River	669,000	191,000	-71%
Minor Systems	193,000	149,000	-23%
All Systems	4,297,000	3,992,000	-7%

Appendix A20 summarizes sockeye salmon harvests from all sources in UCI since 1996. In 2009, the estimated harvest from commercial, sport, personal use, and subsistence/educational fisheries was 2.8 million fish, which was approximately 21% less than the 1996–2008 average annual harvest of 3.6 million fish. The estimated percentage of the total run harvested by non-commercial users (27%) was the largest observed during this time period. The 2009 sport harvest was estimated based on harvests from similar sized runs. The statewide harvest survey for 2009 that details annual sport harvest of all salmon will not be finalized until later in 2010 (Jennings et al. *In prep*). For more details on the specifics of personal use harvests, including demographics, see Reimer and Sigurdsson 2004 and Dunker and Lafferty 2007.

Estimating the average price paid per pound for UCI salmon has become more difficult than in previous years because an increasing number of fishermen market their own catch. This is especially true for Chinook, sockeye and coho salmon, where selling to individual niche markets can often provide a higher price. Early season prices in 2009, for Chinook and sockeye salmon were much higher than in July. By mid season, prices had stabilized somewhere in the \$1.00 to \$1.10/lb range for sockeye salmon, down from the \$1.50 per pound and higher paid during the first few weeks of the year. The estimated average price paid per pound for all salmon in 2009 can be found in Appendix B11. Based on these estimates, the 2009 UCI exvessel value of \$14.6 million was approximately 13% less than the previous 10-year (1999–2008) average annual value of \$16.8 million (Appendix B7). The 2009 sockeye salmon estimated exvessel value of \$13.7 million represented 94% of the total exvessel value for all salmon and was approximately 12% less than the previous 10-year average annual value of \$15.7 million.

Big River

The first commercial sockeye salmon fishery to open in UCI in 2009 was the Big River fishery, which is managed under the Big River Sockeye Salmon Management Plan (5 AAC 21.368). This plan was adopted in 1989, allowing for a small set gillnet fishery in the northwest corner of the Central District beginning on June 1. At the 2005 BOF meeting, the plan was modified, expanding the area open to fishing to include the waters along the west side of Kalgin Island. Between June 1 and June 24, fishing is allowed each Monday, Wednesday, and Friday from 7:00 a.m. to 7:00 p.m. Permit holders are limited to a single 35-fathom set gillnet and the minimum distance between nets is 1,800 feet, which is 3 times the normal separation of gear. While targeting an early run of sockeye salmon returning to Big River, this fishery also encounters Chinook salmon migrating through the area. The management plan limits the harvest of

Chinook salmon to no more than 1,000 fish per year. In recent years, harvests have been well below that level. The 2009 fishery began on Monday, June 1, and yielded a total catch of approximately 25,000 sockeye salmon and 440 Chinook salmon (Appendices A3 and A4). Of the total harvest, 85% of the sockeye and 76% of the Chinook salmon were caught in the Kalgin Island west-side waters, which is statistical area 246-10 (Figure 3). Twenty-six permit holders reported participating in the fishery, which was up from recent years, but less than the peak level of effort of 41 permit holders in 1992.

Western Subdistrict

The next commercial fishery to open in 2009 was the set gillnet fishery in the Western Subdistrict of the Central District. This fishery opens on the first Monday or Thursday on or after June 16 and the regular fishing schedule consists of two 12-hour weekly fishing periods throughout the season, unless modified by emergency order. Harvesting sockeye salmon bound primarily for the Crescent River, commercial harvest data from the southern end of the Western Subdistrict early in the season suggested the run to the Crescent River would need additional harvest to avoid exceeding the upper end of the escapement goal. Therefore, additional fishing time was allowed to target Crescent River stocks. Emergency Order No. 7 (Appendix A10) was issued on July 2, opening commercial salmon fishing with set gillnets in that portion of the Western Subdistrict of the Central District south of the latitude of Redoubt Point from 7:00 a.m. on Thursday until 12:00 noon on Friday; from 7:00 a.m. on Saturday until 12:00 noon on Sunday; and from 7:00 a.m. on Monday until 12:00 noon on Tuesday each week until further notice. The 2009 harvest of Crescent River sockeye salmon of approximately 61,000 sockeye salmon (Appendix A4) was the largest harvest since 1988.

For the first time since 1978, the Crescent River sonar program was not conducted, primarily due to concerns for employee safety. Redoubt Volcano had erupted numerous times earlier in the year and remained in alert status for possible continued eruptions. Therefore, it was deemed too risky to run this project in 2009.

Upper Subdistrict Set Gillnet and Central District Drift Gillnet

Management of the set gillnet fishery in the Upper Subdistrict is guided primarily by 5 AAC 21.365 Kasilof River Salmon Management Plan (KRSMP) and 5 AAC 21.360 Kenai River Late-Run Sockeye Salmon Management Plan (KRLSSMP). There are 2 principal restrictions to the set gillnet fisheries within these plans: (1) a limit on the number of additional hours that may be fished each week beyond the two regular 12-hour fishing periods, and (2) implementation of closed fishing times (windows) each week. By regulation, a week is defined as a period of time beginning at 12:00:01 a.m. Sunday and ending at 12:00 midnight the following Saturday (5 AAC 21.360 (i)). The weekly limitations vary according to the time of year and the size of the sockeye salmon run returning to the Kenai River. As a result of numerous years of exceeding the upper range of the escapement goal in the Kenai and Kasilof Rivers, the BOF modified the Upper Cook Inlet Salmon Management Plan (5 AAC 21.363 (e)) at the 2008 meeting. The board stated it was their intent, that while in most circumstances ADF&G will adhere to the management plans in this chapter, no provision within a specific management plan is intended to limit the commissioner's use of emergency order authority under AS 16.06.060 to achieve established escapement goals for the management plans as the primary management objective.

The Kasilof Section set gillnet fishery is open from June 25 through August 15; however, if 50,000 sockeye salmon are in the Kasilof River before June 25, the season may begin as early as

June 20. The Kenai and East Forelands Sections are open from July 8 through August 15. Beginning July 8, the Kasilof Section is managed in combination with the Kenai and East Forelands Sections per the KRLSSMP. Until an assessment of the Kenai River sockeye salmon run strength can be made, which in recent years has been after July 25, the Upper Subdistrict set gillnet fishery is to be managed based on the size of the Kenai River run that was projected in the preseason forecast. There are 3 basic options available for the management of this fishery. First, if the Kenai River sockeye salmon run is projected to be less than 2 million fish, there may be no more than 24-hours of additional fishing time per week in the Upper Subdistrict set gillnet fishery. If the Kenai and East Forelands Sections are not open during regular or additional fishing periods, ADF&G may limit fishing in the Kasilof Section to an area within one-half mile of the shoreline. There are no mandatory window closures on Kenai River sockeye salmon runs of less than 2 million fish. For runs of this strength, if ADF&G projects the Kasilof River optimal escapement goal (OEG) of 300,000 may be exceeded, an additional 24 hours of fishing time per week may be allowed within one-half mile of the shoreline in the Kasilof Section after July 15.

The second management tier is for Kenai River runs of between 2 and 4 million sockeye salmon. In this scenario, the Upper Subdistrict set gillnet fishery will fish regular weekly fishing periods, with no more than 51 additional fishing hours allowed per management week. The fishery is also closed for one continuous 36-hour period per week, beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday, and for an additional 24-hour period during the same management week.

The third management tier is for Kenai River sockeye salmon runs exceeding 4 million fish. ADF&G may allow up to 84-hours of additional fishing time per week, in addition to regular fishing periods, but the fishery will also be closed for one continuous 36-hour period per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

The KRLSSMP directs ADF&G to manage Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The commercial, sport, and personal use fisheries harvesting this stock are to be managed to: (1) meet an OEG range of 500,000 to 1,000,000 late-run sockeye salmon; (2) achieve inriver goals that are dependent upon the size of the Kenai River run; and (3) distribute sockeye salmon escapements evenly within the OEG range, which is primarily achieved by meeting objective number two. For runs less than 2.0 million fish, the inriver goal range was changed in 2005 from 600,000–850,000 fish to 650,000–850,000 fish; at run strengths between 2 and 4 million fish, the goal is 750,000 to 950,000; and for Kenai River runs greater than 4 million, the inriver goal is 850,000 to 1,100,000 sockeye salmon.

With that brief history as a background, a description of the 2009 Upper Subdistrict set gillnet fishery and Central District drift gillnet fishery will be summarized by actions taken each management week, including estimates of commercial harvest and effects on sockeye salmon passage into monitored watersheds.

The regular season for drift gillnetting began on Monday, June 22, as provided for in the Central District drift gillnet fishery management plan (CDDGFMP). The small harvest of approximately 6,000 sockeye salmon from 72 boats (Appendix A4) was typical for early season drift catches. On Thursday, June 25, drifters fished their second inlet wide period, while the Kasilof Section opened for the first time to set gillnetting. Approximately 122 drift boats harvested 11,000 sockeye salmon while setnetters captured an additional 56,000 fish. Emergency Order (EO) No.

4 opened set gillnetting in the Kasilof Section from 10:00 a.m. on Saturday, June 27, 2009 until 4:00 p.m. on Sunday, June 28, 2009. In this EO, drift gillnetting was opened in the Kasilof Section from 10:00 a.m. until 11:00 p.m. on Saturday, June 27, 2009 and from 5:00 a.m. until 4:00 p.m. on Sunday, June 28, 2009. Drift gillnetters harvested approximately 18,000 sockeye salmon, with setnetters taking nearly 100,000 fish during the week of June 21 to 27. The estimated sockeye salmon passage in the Kasilof River through June 27 was 41,000 fish (Appendix A2). The Kasilof River sonar project began operating on June 15, while the Kenai River sonar project would not begin estimating sockeye salmon passage until July 1.

During the management week of June 28 to July 4 there were 2 regular districtwide drift gillnet openings (Jun 29 and July 2), as well as 43-hours of additional drift fishing time allowed in the Kasilof Section (see EOs 4, 5, 6, and 8). Setnetters also fished two regular 12-hour periods, with 48 hours of additional fishing time during the week, which was the maximum amount of extra fishing time allowed for in the KRSMP. The additional fishing time was provided based on 2 criteria, (1) to slow the rate of Kasilof River sockeye salmon escapement in order to remain within the OEG by the end of the season, and (2) compensate for mandatory weekly closed fishing periods (windows) that can result in large numbers of fish entering the river. The 36-hour no fishing window was implemented in the set gillnet fishery by not fishing from 7:00 p.m. on Thursday, July 2, until 8:00 a.m. on Saturday, July 4 (Table 4).

Table 4.—Upper Subdistrict set gillnet fishing hours, 2009.

Week	KASILOF SECTION				KENAI & E. FORELANDS SECTIONS			
	Extra	Extra	Window	Window	Extra	Extra	Window	Window
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
	In Plan	Used	In Plan	Used	In Plan	Used	In Plan	Used
Jun 21 - 27	48	18	36	36	closed	closed	closed	closed
Jun 28-July 4	48	48	36	36	closed	closed	closed	closed
Jul 5-11	51 + 24 ^a	40	24	24	51	3	24	24
			36	36			36	36
Jul 12-18	51 + 24 ^a	48	24	24	51	4	24	24
			36	36 ^b			36	36
Jul 19-25	51 + 24 ^a	45	24	24 ^c	51	2	24	24
			36	36			36	36
Jul 26-Aug 1	24 + 24 ^a	11	0 ^d	na	24	0	0 ^d	na
			0 ^d	na			0 ^d	na
Aug 2-Aug 8	24 + 24 ^a	3	0 ^d	na	24	3	0 ^d	na
			0 ^d	na			0 ^d	na
Aug 9-Aug 15	24 + 24 ^a	4	0 ^d	na	24	4	0 ^d	na
			0 ^d	na			0 ^d	na

^a 24 hours in Kasilof one-half mile fishery.

^b 36 hours of closure beyond one-half mile; 15 hours of closure within one-half mile.

^c 24 hours of closure beyond one-half mile; 15 hours of closure within one-half mile.

^d No mandatory windows on Kenai runs <2 million fish.

For the week, drifters harvested 64,000 sockeye salmon, while approximately 164,000 sockeye salmon and 502 Chinook salmon were taken in the Kasilof Section set gillnet fishery. The estimated cumulative sockeye salmon passage in the Kasilof River through July 4 was 78,000 fish; in the Kenai River, where sockeye salmon escapement enumeration began on July 1, the estimated total passage through July 4 was 15,000 fish.

Three EOs (No. 9–11) were issued during the management week of July 5–11 in order to slow the escapement rate of sockeye salmon into the Kasilof River. These were in addition to the 2 regularly scheduled 12-hour fishing periods on Monday, July 6, and Thursday, July 9. The Kenai and East Forelands Sections were opened to set gillnetting for the first time in 2009 on July 9. The KRSMP states that beginning July 8, if the set gillnet fishery in the Kenai and East Forelands Sections are not open for fishing, that fishing in the Kasilof Section may be limited to the waters within one-half mile of shore. Thus, the additional fishing time that was provided in the Kasilof Section on July 11 was limited to the waters within one-half mile of shore. For the week, a total of 40 hours of additional fishing was allowed in the setnet fishery (only 3 of those hours in the Kenai and E. Forelands Sections), while 21 additional hours were provided to the drift gillnet fishery in the Kasilof Section or Kenai and Kasilof Sections. By regulation, the drift gillnet fishing periods between July 9 to 15 for Kenai River sockeye salmon runs of between 2 and 4 million fish must be fished in Drift Gillnet Area 1 (Figure 4) and the Kenai and Kasilof Sections. Thus, the July 9 period was restricted to these areas. Both no-fishing windows in the set gillnet fishery were implemented per the KRLSSMP. The estimated cumulative Kasilof River sockeye salmon passage through July 11 had now reached 118,000 fish, while in the Kenai River, the total passage estimate for the season was 54,000 fish, which was the 8 largest (24 years with less passage and 7 years with a higher passage estimates) passage estimate through this date since 1978. For the week, setnetters captured approximately 137,000 sockeye salmon and 1,300 Chinook salmon. Drift gillnetters harvested another 204,000 sockeye salmon.

The KRSMP states that beginning July 8, the set gillnet fishery in the Kasilof Section will be managed as specified in the KRLSSMP, except for provisions in the KRSMP that are specific to the Kasilof Section during this time. Thus, for the week of July 6 to 12, management of the Kenai, Kasilof, and East Forelands Sections (Upper Subdistrict) set gillnet fisheries all fell under the guidelines of the KRLSSMP.

The preseason forecast for the Kenai River was for a total sockeye salmon run of between 2 and 4 million fish (Appendix C1). For runs of that size, the KRLSSMP required one 24-hour floating window and one 36-hour prescriptive no-fishing window to be implemented in the Upper Subdistrict set gillnet fishery each management week. Additional fishing time in this area was limited to no more than 51 hours per week.

At the 2008 board meeting, Susitna River sockeye salmon were found to be a stock of yield concern. According to the Sustainable Salmon Fisheries Policy for the State of Alaska (www.adfg.state.ak.us/special/susalpol.pdf), a stock of yield concern is defined as a concern arising from a chronic inability, despite the use of specific management measures, to maintain expected yields, or harvestable surpluses, above a stock's escapement needs; a yield concern is less severe than a management concern, which is less severe than a conservation concern. As a result, an action plan was developed by ADF&G, which identified conservative management measures in both the sport and commercial fisheries targeting Susitna River sockeye salmon stocks. Adopted by BOF at this meeting, the Susitna River Sockeye Salmon Action Plan (SSSAP) included the following statement, "In light of recent department data revealing

concerns about the validity of Yentna River sockeye salmon enumeration data, it is the intent of the board that Susitna River sockeye salmon stocks will be conservatively managed while the department continues its studies in this drainage.” For commercial fisheries, conservation of Susitna River sockeye salmon stocks was to be met through implementation of the CDDGFMP and modifications to the Northern District set gillnet fishery.

The SSSAP invoked the CDDGFMP, which mandates area restrictions to the drift fishery in July that were developed to conserve northern-bound salmon stocks. The CDDGFMP states that from July 9 to 15 ADF&G must restrict the drift gillnet fishing fleet for 2 regular fishing periods to Area 1 (Figure 4) of the Central District, and to the Kenai and Kasilof Sections (Figure 3), often referred to as “the corridor.” From July 16 to 31 there are 2 regular period area restrictions to the drift gillnet fleet that are dependent upon the size of the Kenai River sockeye salmon run. For Kenai River sockeye salmon runs less than 2 million, ADF&G must restrict the drift fleet to Area 1 (and the Kenai and Kasilof Sections); for runs of 2 million to 4 million, the drift fleet is restricted to Area 1 and Area 2 (and the Kenai and Kasilof Sections); and for runs greater than 4 million there are no mandatory restrictions. These restrictions apply to any 2 regular periods during this time frame. The purpose of the July 9–15 restrictions was to allow for the passage of northern-bound sockeye salmon, while the July 16–31 restrictions were primarily for conservation of northern-bound sockeye and coho salmon. The SSSAP also required ADF&G to limit the Northern District set gillnet fishery to no more than one 35-fathom set gillnet per permit holder from July 20 through August 6, which represents the time period when the majority of the sockeye salmon run is transiting the Northern District. Again, these drift and set gillnet fishing restrictions met the conservation burden as outlined in the SSSAP.

The management week of July 12 to 18 began with a 14-hour fishing period on Sunday, July 12; however, this fishing period was limited to set gillnets only and confined to the Kasilof Section within one-half mile of shore (see EOs No. 13–17 for fishing period adjustments taken during the management week). This action was taken to slow the rate of sockeye salmon escapement into the Kasilof River. Although Kenai River sockeye salmon escapement revealed no concerns, it was too early in the season to fish an extra period on this stock. For the regular fishing period on Monday, July 13, drifters were again limited to Drift Area 1 and the Kenai and Kasilof Sections, per the CDDGFMP. A 4-hour extension of the fishing period was allowed for both set and drift gillnetters, with the extra time for drifters limited to the Kenai and Kasilof Sections. The set gillnet extension was given primarily to facilitate the removal of gear, as the 7:00 p.m. closing time fell at mid-tide for most fishermen. No fishing occurred on Tuesday, July 14, which fulfilled the 24-hour set gillnet no-fishing window. A 13-hour fishing period occurred on Wednesday, July 15 for set gillnetters in the Kasilof Section one-half mile fishery. Everyone fished the regular period on July 16, with drifters held to Drift Areas 1 and 2 and the Kenai and Kasilof Sections (Figure 4). This was the first of 2 drift gillnet area restrictions required by the CDDGFMP during the July 16–31 time period. Finally, set gillnetting in the Kasilof Section one-half mile fishery was opened for 16 hours, or from 10:00 a.m. on July 17 until 2:00 a.m. on July 18. For the week, set gillnetters harvested 275,000 sockeye salmon and 1,400 Chinook salmon, while drift gillnetters harvested approximately 377,000 sockeye salmon. Sockeye salmon passage estimates had reached 301,000 in the Kenai River and 179,000 in the Kasilof River. During the previous 10 years in both the Kenai and Kasilof Rivers, 5 years had higher passage estimates and 5 years showed lower cumulative passage estimates through 18 July. Both no-fishing windows (24 hour and 36 hour) were implemented in the Upper Subdistrict set gillnet fishery, except in the Kasilof Section within one-half mile of shore, where the 36-hour window

was shortened to 15-hours (Figure 5). A total of 48-hours of the allowable 51-hours of additional fishing was provided to set gillnetters, with 44 of those hours limited to the Kasilof Section one-half mile fishery (Table 4).

The week of July 19–25 began with a 10-hour set gillnet fishing period in the Kasilof Section within one-half mile of shore (see EOs No. 1823 for the week). Again, fishing was limited to this area to target Kasilof River sockeye salmon, while significantly reducing exploitation on Kenai River stocks. All areas and gear types fished the regularly scheduled 12-hour fishing period on Monday, July 20, with drifters once again limited to Drift Areas 1 and 2 and the Kenai and Kasilof Sections. This was the fourth fishing period restriction to the drift gillnet fleet for the year, fulfilling all the fishing area restrictions in the CDDGFMP. Set gillnetting in the Kasilof Section within one-half mile of shore was allowed for 33 hours beginning at 10:00 a.m. on Tuesday, July 21. The regularly scheduled fishing period on Thursday, July 23 marked the first time in 2009 that all areas and gear types fished at the same time without some manner of restriction, as drifters were allowed to fish in all open areas of the Central District. Emergency Order No. 23 provided a 2-hour extension to the fishing period to facilitate gear removal at the end of the fishing period. Drifting was limited to the Kenai and Kasilof Section during the extension. No commercial fishing occurred during the rest of the week by drifters or set gillnetters in the Upper Subdistrict. For the week, setnetters harvested approximately 1,400 Chinook salmon for a season total of 4,700 fish. They also caught 178,000 sockeye salmon to bring their total harvest to 854,000. Drift gillnetters harvested approximately 270,000 sockeye salmon during the week for a season total of 932,000. Sockeye salmon passage estimates in the Kasilof River had reached 209,000 through July 25, while in the Kenai River the cumulative passage estimate was 445,000. The no-fishing window periods for the set gillnet fishery were fulfilled in all areas, except within one-half mile of shore in the Kasilof Section, where the 36-hour window was met, but the 24-hour window was shortened to 15 hours. That said, only 2 hours of additional fishing were provided to set gillnetters in the Kenai and East Forelands Sections and to drifters in the corridor.

The KRLSSMP requires ADF&G to make an inseason projection of the size of the Kenai River sockeye salmon run some time on or after July 20. During the July 19–25 management week, ADF&G staff met to assess the sockeye salmon run to date and to make projections regarding the total UCI run. The data were analyzed so that an estimate could be made of the Kenai River sockeye salmon run size. Using the OTF program in combination with catch and escapement data through July 23, the run to date was estimated at 3.32 million sockeye salmon (Shields and Willette *In prep*). The OTF model indicated the 2009 UCI sockeye salmon run most closely tracked the 2000 run (a 2-day early run), and projected a total of 3.61 million fish for the 2009 return. The estimated total sockeye salmon run using the top 5 best fits of the OTF data projected a total run ranging from 3.61 to 8.54 million fish, with 4 of 5 best fits all projecting early runs. Using the early run projections, the total run was predicted to range between 3.61 and 4.12 million fish, with the Kenai River component expected to range between 1.92 and 2.28 million fish. The point estimate from the first best fit from the OTF data projected the total Kenai River sockeye salmon run at 1.92 million fish. Assuming that 1.47 million Kenai River sockeye salmon were accounted for in the run to date, this meant that approximately 450,000 fish remained in the run. However the range around this estimate was plus or minus 400,000 fish, which was problematic. The preseason forecast for Kenai River sockeye salmon had projected a total run of 2.44 million fish, which required commercial fisheries management to follow the guidelines for a run of 2 to 4 million fish. This inseason information alerted staff that a precautionary approach to

management of the commercial fisheries was in order. In fact, projections indicated to staff that following the guidelines for a Kenai River sockeye salmon run of less than 2 million fish was the most reasonable action to take. This determination had numerous implications to management of the commercial fisheries, with the most significant changes being that the Kenai River escapement goal changed to 650,000–850,000 fish and the maximum number of additional hours the Upper Subdistrict set gillnet fishery could be fished per week was 24 (with the possibility of an additional 24 hours in the Kasilof Section one-half mile fishery). The no-fishing window periods in the Upper Subdistrict set gillnet fishery for Kenai River runs of less than 2 million fish were no longer required, as the limit on additional fishing time provided for a minimum of 120 hours of closure in a 168-hour week.

Very little fishing was allowed during the week of July 26–August 1, largely in response to lagging Kenai River sockeye salmon passage. Even with the minimum inriver escapement objective being reduced from 750,000 to 650,000 fish, management staff were uncomfortable with allowing the regular fishing periods on Monday, July 27, and Thursday, July 30 to take place if the minimum escapement target was to be achieved. No restrictions were taken in the Kenai River dip net fishery or in the inriver sport fishery. The decision to close both regular commercial fishing periods for the week was made with data from 2008 in mind. In 2008, beginning on July 25, no commercial fishing was allowed other than in the Kasilof River Special Harvest Area and one 9-hour fishing period by setnetters in the Kasilof Section within one-half mile of shore (Shields 2009). Although no commercial fishing took place for 24 days (Aug 25 through Sep 17, 2008), only 291,000 sockeye salmon were estimated to have migrated past the sonar into the Kenai River during the closed period. The final passage estimate in the Kenai River in 2008 was 615,000 fish. Because of the imbalance of sockeye salmon passage in the Kenai and Kasilof Rivers in 2009, ADF&G staff were challenged with how to meet both escapement objectives. With no commercial fishing allowed since 9:00 p.m. on Thursday, July 23, passage rates began to increase in the Kasilof River, with more than 10,000 fish being enumerated on both July 25 and 26, bringing the season total to 231,000. Thus, in an attempt to slow down the rate of escapement into the Kasilof River and minimize exploitation on Kenai River stocks, an 11-hour fishing period was granted to set gillnetters within one-half mile of shore on Monday, July 27. Approximately 17,000 sockeye salmon were harvested during this fishing period. After this fishing period, passage rates fortunately began to slow in the Kasilof River, and by midnight on July 31, the cumulative passage in the Kenai River had reached 618,000 fish. Feeling confident the minimum inriver goal would now be reached in the Kenai River, the 12-hour regularly scheduled fishing period that was closed on Thursday, July 30, was fished on Saturday, August 1. For the week, only 2 commercial fishing periods were allowed: (1) 11 hours on July 27 in the Kasilof Section one-half mile set gillnet fishery, and (2) 12 hours provided set and drift gillnetters on August 1 (Figure 5). Seasonal cumulative passage rate estimates in the Kenai and Kasilof Rivers now totaled 636,000 and 256,000 fish, respectively, through Saturday, August 1. Harvest figures from the August 1 fishing period revealed very small catches, with 209 drift boats reporting a total harvest of only 10,000 sockeye salmon (approximately 49 fish/boat), while Upper Subdistrict set gillnetters harvested approximately 12,000 fish.

The week of August 2–8 was prosecuted by fishing regular periods only with the August 6 period extended 3 hours to facilitate set gillnet gear removal. Catch rates continued to decline in the set gillnet fishery, and although drifters doubled their small August 1 catch on August 3, the harvest from August 6 was less than 4,000 sockeye salmon. In 2005, the BOF modified 5 AAC

21.310 Fishing Seasons to state that the Upper Subdistrict set gillnet fishery closes any time after July 31, if ADF&G determines that less than one percent of the season's total sockeye salmon harvest has been taken per fishing period for 2 consecutive fishing periods. In addition, the BOF also modified the CDDGFMP to reflect that if the Upper Subdistrict set gillnet fishery is closed under the one percent rule, regular drift gillnet fishing periods will be restricted to Drift Gillnet Areas 3 and 4 (Figure 6). Set gillnetters harvested approximately 9,900 sockeye salmon on Monday, August 3, which represented approximately 1.1% of the season total of 892,000 fish (Table 5). However, the estimated sockeye salmon harvest on Thursday, August 6, of 8,400 fish was less than one percent of the season total of 901,000 fish. The minimum inriver escapement goal of 650,000 fish in the Kenai River was achieved on August 2, and by August 5 the cumulative passage estimate had exceeded 700,000. However, by the end of the week, sockeye salmon passage estimates in both the Kenai and Kasilof River had tapered off to just a few thousand fish per day.

Table 5.—Upper Subdistrict set gillnet sockeye salmon harvest in August, 2009

Upper Subdistrict Set Gillnet Sockeye Salmon Harvest			
Date	Daily	Total	%
8/1	11,913	882,527	1.3%
8/3	9,906	892,433	1.1%
8/6	8,363	900,796	0.9%
8/10	4,882	905,678	0.5%

August 9 to 15 represented the final management week of the year for Upper Subdistrict set gillnetting and Central District inlet-wide drift gillnetting. The regularly scheduled 12-hour fishing period on Monday, August 10, was extended 4 hours to take advantage of the full tide cycle, with drift gillnetting confined to the Kenai and Kasilof Sections during this extension. The estimated sockeye salmon harvest in the set gillnet fishery for the day was less than 5,000 fish, or approximately 0.5% of the season total. Because this was the second consecutive fishing period where the daily harvest total was less than one percent of the season total, the fishing season ended for set gillnetting in the Upper Subdistrict and drift gillnetting was limited from this point forward to Drift Gillnet Areas 3 and 4.

Sockeye salmon passage was estimated in the Kenai and Kasilof Rivers through August 13. Sonar operations at these sites are typically terminated when the daily passage estimates are less than one percent of the season total for 3 consecutive days. The final sockeye salmon passage estimate in the Kenai River was 745,000 fish, while in the Kasilof River the season total was estimated at 297,000 fish (Table 6 and Appendix A2). This marked the first year since 1996 that the final passage estimates in both the Kenai and Kasilof Rivers fell within the escapement objective ranges in the same year (Appendix B10).

For the remainder of the season (after August 10), drift gillnetters harvested approximately 424 sockeye, 9,624 coho, 54 pink, and 455 chum salmon in Drift Areas 3 and 4 and in Chinitna Bay. EO No. 33 opened Chinitna Bay to drift gillnetting for Monday, Wednesday, Friday 12-hour fishing periods beginning on Wednesday, August 26. Aerial census escapement counts had

indicated that the upper end of the Chinitna Bay chum salmon escapement goal of 3,400 to 8,400 had been exceeded, warranting fishing in this area. The last reported drift gillnet harvest anywhere in UCI took place on September 14.

Table 6.–Sockeye salmon estimates of passage, 2009.

System	Passage	Goal Range
Kenai River	745,170	650,000-850,000
Kasilof River	297,125	150,000-300,000
Crescent River	no count	30,000-70,000
Fish Creek	90,146	20,000-70,000
Packers Lake	16,473	15,000-30,000
Larson Lake	41,929	15,000-50,000
Chelatna Lake	17,865	20,000-65,000
Judd Lake	43,153	25,000-55,000

For the first time since 2004, the Kasilof River Special Harvest Area (KRSHA) was not opened to commercial fishing, which met the intent language of the Kasilof River Salmon Management Plan (KRSMP). Extra fishing time was provided in the Kasilof Section within one-half mile of shore to target harvest as much as possible on Kasilof River sockeye salmon stocks, while minimizing Kenai River sockeye salmon interception.

Kalgin Island Subdistrict

The estimated sockeye salmon harvest in the Kalgin Island Subdistrict for 2009 was approximately 65,000 fish, with nearly 22,000 fish being taken on the west side of the island (Statistical Area 246-10) during the Big River sockeye salmon fishery. One additional 12-hour fishing period was provided in the Kalgin Island Subdistrict in 2009 (EO No. 27). This extra period occurred on August 1, and was in compliance with the Packers Creek Sockeye Salmon Management Plan (5 AAC 21.370). A video camera placed at the outlet of Packers Lake revealed that sockeye salmon escapement into the lake would meet or exceed the SEG (15,000 to 30,000 fish) for this system. Although the remote video system did not enumerate the entire Packers Lake sockeye salmon run, the final estimated escapement fell within the SEG range (Table 6 and Appendix A2).

Western Subdistrict

Since 1999, 24-hour per day set gillnet fishing has been granted in the Western Subdistrict south of Redoubt Point for much of July in an effort to slow the escapement of sockeye salmon into Crescent Lake. In 2009, this area was opened for three 17-hour fishing periods per week from July 2 through August 2 (Appendix A11). Although the sonar program was not run at the Crescent River in 2009 due to safety concerns for employees as a result of Redoubt Volcano eruptions, early season harvest data in this area suggested that additional exploitation on this stock was warranted. Moreover, from 1999 to 2007, the upper end of the BEG range was exceeded every year (Appendix B10), with the estimated passage of 62,000 sockeye salmon in 2008 falling near the upper end of the BEG (Appendices A2 and B10). Very little commercial harvest occurs in the Western Subdistrict outside of the Crescent River area and after the Big

River sockeye salmon fishery closes. In 2009, approximately 700 sockeye salmon were harvested in the Western Subdistrict north of Redoubt Pt. after June 25.

COHO SALMON

The 2009 commercial coho salmon harvest of approximately 153,000 fish was 19% less than the previous 10-year average annual harvest of 189,000 fish, and nearly 51%, or 159,000 fish, less than the 1966–2008 average annual harvest of 312,000 fish (Appendix B3). In fact, this was the ninth lowest commercial harvest of coho salmon in the past 44 years (since 1966). However, considering the numerous restrictions and closures of Central District drift gillnet and Upper Subdistrict set gillnet fishing periods, as well as 6 fishing period gear restrictions in the Northern District set gillnet fishery, the harvest of 153,000 coho salmon was not unexpected (see the Stock Status and Outlook section of this report for further discussion on coho salmon stocks). Drift gillnetters were allowed to fish beyond August 10, but only in Drift Areas 3 and 4 and in Chinitna Bay beginning on August 26. Fishing periods in Areas 3 and 4 were 12-hours in duration and occurred on Monday and Thursday within 1-mile of mean lower-low water (zero tide), while Chinitna Bay 12-hour openings occurred on Monday, Wednesday, and Friday. The estimated coho salmon harvest by drift gillnetters after August 10 was approximately 9,600 fish (Appendix A5).

The exvessel value of coho salmon from the 2009 UCI commercial fishery was approximately \$400,000 or 2.7% of the total exvessel value (Appendix B7). The average price paid for coho salmon was estimated at \$0.40/lb (Appendix B11), which was the same price paid in 2008, but represented a \$0.10 to \$0.20 per pound drop from 2005 to 2007.

PINK SALMON

The 2009 UCI harvest of approximately 214,000 pink salmon was the largest odd-year harvest since 1977 (Appendix B4). Given the number of commercial fishing restrictions just described in the section for coho salmon, this level of harvest would seem to indicate the 2009 run was probably one of the strongest odd-year returns on record. Pink salmon are typically taken in significant quantities in UCI beginning in late July and the first couple of weeks in August. This year, drift gillnetters captured approximately 37,000 pink salmon on July 23, their largest single day catch of the year. No drift fishing was allowed the following 9 days in response to lagging Kenai River sockeye salmon passage.

The average price paid for pink salmon in 2009 was approximately \$0.10/lb (Appendix B11), resulting in an exvessel value for this species of \$72,000, or 0.5% of the total exvessel value (Appendix B7).

CHUM SALMON

The 2009 estimated harvest of 83,000 chum salmon represents the largest annual catch in UCI since 2004, yet remained approximately 28% less than the average annual harvest of 115,000 fish taken during the previous 10-years (Appendix B5). The 1966–2008 average annual chum salmon harvest in UCI was approximately 458,000 fish. Assessing chum salmon stocks based on recent harvest trends is suspect, at best. As stated numerous times in this report, the drift gillnet fleet, the primary harvester of chum salmon, had numerous area restrictions or closures during the 2009 fishing season to conserve both Susitna and Kenai River sockeye salmon, which results

in significant reductions of chum salmon harvest. The status of chum salmon will be discussed further in the Stock Status and Outlook section of this report.

The 2009 exvessel value for chum salmon was approximately \$116,000, which was just 0.8% of the overall exvessel value of the 2009 fishery (Appendix B7). The average price paid for chum salmon in 2009 was estimated to be \$0.20/lb (Appendix B11), which was the same price received in 2008, and just slightly above the previous 10-year average annual price of \$0.18/lb.

PRICE, AVERAGE WEIGHT, AND PARTICIPATION

The estimated average price per pound paid to fishermen for their catch in 2009 was nearly identical to what they received in 2007 (Appendix B11). The average price paid per pound for sockeye salmon from 2000 to 2004 was only \$0.67; since then, it has averaged \$1.06/lb. As mentioned earlier, it must be noted that calculating the average price for what fishermen actually receive for their catch is becoming more and more difficult. The reason for this is due to the increasing number of fishermen who are marketing their own product. In the late 1990s, farmed salmon were finding a niche in global markets. In UCI, the 1998 and 2000 sockeye salmon harvests were some of the poorest catches on record. These factors led to a marked reduction in the prices paid for wild-caught salmon, which forced many fishermen to go in search of markets where they could receive higher payments for their catches. These market forces further helped to expedite the change the UCI salmon fishing industry has made in emphasizing quality of the final product as much as quantity. More than ever before, many fishermen are bleeding and icing their catch immediately upon harvest. This emphasis on quality has played an important role in an increase in the price that fishermen are receiving from processors, as well as in individual markets <http://www.kenaiwild.org/history.php>.

Average prices reported here are generated from inseason grounds prices and do not reflect any postseason adjustments. It is unknown whether this occurred to any significant degree for fish harvested in 2009.

The average weight by species from the 2009 commercial harvest was comparable to historical averages, other than for Chinook salmon (Appendices A13 and B12). The 17.4 pound average weight of Chinook salmon from all commercial fisheries in 2009 was 33% less than the 1969–2008 average of 26 pound and represented the smallest average size observed during this time span. Chinook salmon harvested in the Upper Subdistrict set gillnet fishery are sampled for age and size characteristics. Results from these analyses corroborate the weight data recorded on fish tickets. In 2009, approximately 65% of the commercial Chinook salmon harvest in the Upper Subdistrict set gillnet fishery was comprised of fish that had spent 2 years or less in salt water (Figure 7). Since approximately year 2000, the average age of Chinook salmon harvested in the Upper Subdistrict set gillnet fishery has been decreasing. For example, the average number of all Chinook salmon harvested in the Upper Subdistrict set gillnet fishery from 1987 to 1999 was 11,065 fish, with the average annual harvest from 2000 to 2009 being nearly identical at 11,318 fish per year. The average number of age-2 or younger Chinook salmon was 2,233 per year from 1987 to 1999, while from 2000 to 2009 the average annual harvest had doubled to 4,441 fish per year (Terri Tobias, Commercial Fisheries Technician, ADF&G, Soldotna, Alaska; personal communication).

The Commercial Fisheries Entry Commission (CFEC) showed 570 active drift gillnet permits in the Cook Inlet area in 2009, with 71% issued to Alaskan residents (Appendix B13). Of this total, 405 reported fishing in 2009 (Appendix A8). CFEC also showed 738 active set gillnet permits in

Cook Inlet, with 83% being issued to Alaskan residents. From this total, 467 reported fishing in UCI in 2009, but it should be noted that some of the 738 active set gillnet permits for UCI (Area H) likely fished in Lower Cook Inlet and are not accounted for in this report. A total of 25 shorebased processors purchased UCI fishery products in 2009, as well as 20 direct marketer vessels, 1 floating processor, 1 buyer exporter, and 18 catcher–sellers. A catcher seller is defined in 5 AAC 39.130(k) as a “commercial fisherman who sells or attempts to sell unprocessed fish that were legally taken by the catcher–seller.” These fish may be sold (A) to the general public for use for noncommercial purposes; (B) for use as bait for commercial or noncommercial purposes; (C) to restaurants, grocery stores, and established fish markets; or (4) by shipping the fish to a licensed buyer, processor, or exporter within the state. For more information, please visit <http://www.cf.adfg.state.ak.us/geninfo/permits/intent/catchsel.pdf>. A list of the major fishery processors that purchased salmon in UCI in 2009 can be found in Appendix A14.

SALMON ENHANCEMENT

Salmon enhancement through hatchery stocking has been a part of UCI salmon production since the early 1970s. Presently, only a single commercially-oriented hatchery remains fully operational in UCI, that being the Trail Lakes facility, which is operated by CIAA. Trail Lakes hatchery is located in the upper Kenai River drainage near Moose Pass. This hatchery was originally built and operated by ADF&G Fisheries Rehabilitation and Enhancement Division, but was subsequently leased to CIAA in 1990, as the state operating budget declined. Trail Lakes hatchery has functioned primarily to produce sockeye salmon, with minor production of coho and Chinook salmon. Most of the production from this facility benefits Lower Cook Inlet fishermen. In 2005, the water wells at Trail Lakes hatchery were unable to supply enough volume to rear all the fish in the facility, so some had to be transferred to the Eklutna hatchery, a separate facility owned by CIAA. Since then, the water wells at Trail Lakes hatchery have been redeveloped, resulting in increased water supply, and all rearing activities were based there in 2009.

Until recently, 2 lakes located on the Kenai Peninsula, Hidden Lake and Tustumena Lake, were stocked with sockeye salmon fry, with the adult production from these enhancement programs available to both the UCI common property commercial fishery and the personal use and recreational fisheries. In 2009, CIAA released approximately 911,000 unfed sockeye salmon fry (0.092g) into Hidden Lake (<http://www.ciaa.net.org>). These fry were otolith-marked, which allowed for identification and enumeration of hatchery stocks when the smolt emigrated to sea. Adult salmon are also sampled and examined for hatchery otolith marks when they swim through the weir at Hidden Creek. From May 22 through July 1, 2009, CIAA enumerated approximately 161,200 sockeye salmon smolt emigrating Hidden Lake, of which 51% were estimated to be of hatchery origin (Weber 2010).

As a result of a ruling issued by the U.S. Ninth Circuit Court of Appeals in 2003 (Shields 2007), stocking activities ceased in Tustumena Lake after the sockeye salmon fry release in 2004.

A sockeye salmon enhancement project has been conducted at Big Lake since 1975, which is located in the Matanuska-Susitna Valley, approximately 24 km west of Wasilla (Figure 1). AFD&G directed the stocking program through 1992, but since then CIAA has conducted the gamete collection, incubation, and release activities. After the 2008 season, CIAA ceased stocking fry and smolt in Big Lake (see the stock status section of this report for further details on Big Lake sockeye salmon). Thus, there were no juvenile salmon released at Big Lake in

2009. As a result of terminating enhancement activities in Big Lake, CIAA also ceased the smolt enumeration project at Fish Creek.

In 2009, the estimated number of hatchery-produced adult sockeye salmon that returned to UCI was 62,000 (20,000 Hidden Lake origin; and 42,000 Big Lake origin), which was approximately 1.5% of the total UCI run (Terri Tobias, Commercial Fisheries Technician, ADF&G, Soldotna, Alaska; personal communication). Tustumena Lake was last stocked with sockeye salmon fry in 2004, so it was possible that a fraction of the age-2.3 fish returning in 2009 could have been hatchery produced. However, from 2004 to 2008 none of the age-2.3 otoliths examined ($n=57$) tested positive for hatchery identification. Therefore, no otoliths were taken in 2009, as the sample size needed to accurately estimate the very small age-2.3 hatchery component of the return would have been significant. 2010 will mark the first year since the late 1970s that no hatchery produced sockeye salmon will return to Tustumena Lake.

CIAA also conducts other activities that benefit wild salmon production, such as removal of beaver dams, installation and monitoring of flow control structures, and other seasonal barrier modifications.

STOCK STATUS AND OUTLOOK

On the whole, the status of UCI's monitored salmon stocks is positive, with only one stock, Susitna sockeye salmon, meriting detailed review.

Sockeye Salmon

A run of 4.3 million sockeye salmon was forecast to return to UCI in 2009 with an expected harvest by all user groups of approximately 3.0 million fish (Appendix C1). This forecast was about 900,000 fish below the 20-year average harvest by all user groups. The actual run of approximately 4.0 million sockeye salmon in 2009 resulted in a total harvest of approximately 2.8 million fish with 2.0 million caught by commercial gillnet fishermen and approximately 765,000 fish taken by sport, personal use, and educational fisheries (Table 7 and Appendix A20).

Table 7.—Upper Cook Inlet sockeye salmon run, 2009.

System	Commercial Harvest	Escapement	Other Harvest	Total
Crescent River	61,465	125,114	0	186,579
Fish Creek	28,314	83,380	10,228	121,922
Kasilof River	438,196	295,625	108,567	842,388
Kenai River	1370091	517,608	623,373	2,511,072
Susitna River	70,516	115,337	4,994	190,847
All Others	68,804	56,950	22,903	371,628
Total	2,045,554	1,198,876	777,368	4,021,798

Susitna River

In an attempt to understand the complicated circumstances regarding Susitna River sockeye salmon, a thorough review of the recent history regarding research and management of this stock is warranted.

Since 1976, Susitna River sockeye salmon total annual runs were estimated to have ranged from 147,000 to 773,000 fish (Fair et al. 2009). Total run size estimates were arrived at by summing

(1) the number of fish harvested in the various commercial fisheries using a weighted age-composition catch allocation method, as described by Tobias and Tarbox 1999, (2) the number of fish harvested in recreational and subsistence fisheries, and (3) the number of fish escaping the entire watershed, which was estimated with Bendix sonar and fish wheel species apportionment in the Yentna River, that in turn was multiplied by 1.95 to represent the entire Susitna River drainage escapement (Fried 1996). From 1986 to 2001 the escapement goal for Susitna River sockeye salmon was a BEG, which was predicated on an escapement of 100,000 to 150,000 fish in the Yentna River (Appendix B10). Beginning in 2002, ADF&G changed the BEG for the Susitna River to an SEG range of 90,000 to 160,000 sockeye salmon for the Yentna River, because stock-specific estimates of the harvest and total return to the Susitna River were considered unreliable³. In 2005, the board added a Yentna River sockeye salmon OEG of 75,000 to 180,000 fish for years when the Kenai River total sockeye salmon run exceeded 4 million fish. For more details on previous studies pertaining to sockeye salmon in the Susitna River drainage, see Tarbox and Kyle 1989; Kyle et al. 1994; King and Walker 1997; Edmundson et al. 2000; and Todd et al. 2001.

The 2007 UCI Annual Management Report (Shields 2007) details the declining sockeye salmon runs to the Susitna River drainage over the past decade (using the method just described to enumerate the runs). In response to the diminishing returns, research objectives were defined and studies were funded beginning in 2006 to help ADF&G better understand sockeye salmon production in the watershed. These studies included: (1) mark-recapture and radiotelemetry projects intended to estimate the number of sockeye salmon entering the system, which also allowed for the identification of spawning areas in the drainage; (2) limnological investigations of numerous lakes throughout the drainage to assess production potential; (3) fry and smolt population estimates in as many as 7 different lakes; (4) evaluation of the effects of northern pike (*Esox lucius*) predation and beaver dams on production; and (5) a comprehensive GSI study of sockeye salmon fisheries in Upper Cook Inlet to determine the river of origin of all harvested fish. In 2007 and 2008, modifications to the project were implemented based upon the results of the 2006 field season.

Although the final summary report of these studies were not available at the time this report was published (please see Yanusz et al. 2007 for results from the first 2 years of the study), preliminary population estimates, which included the number of adult salmon counted through weirs at lakes in the Yentna River drainage upstream of the sonar site, revealed the Bendix sonar/fish wheel species apportionment program was significantly underestimating sockeye salmon passage in the Yentna River (Appendix A12). Deployment of a DIDSON resulted in substantially more fish targets being ensonified than the Bendix sonar did, but the improved sonar technology could not resolve species apportionment issues. This became evident when escapements counted through weirs at 2 lakes (Chelatna and Judd) in the Yentna River drainage exceeded the Bendix passage estimate for the entire river. In addition, mark-recapture population estimates for the Susitna drainage corroborated the fact that the Bendix sonar passage estimates were significantly biased low. Moreover, data from 2009 would seem to indicate that the Bendix sonar/fish wheel species apportionment program is likely not even a reliable index of escapement. A closer look at the most recent data will illustrate this.

³ Bue, B. G., and J. J. Hasbrouck. *Unpublished*. Escapement goal review of salmon stocks of Upper Cook Inlet. Alaska Department of Fish and Game, Report to the Alaska Board of Fisheries, November 2001 (and February 2002), Anchorage.

The mean ratio between the mark–recapture abundance estimates for the entire Susitna River drainage and the Yentna River Bendix sonar estimates from 2006 to 2008 was 4.2. That is, the mark–recapture estimates averaged more than 4 times higher than the Bendix sonar counts during this 3-year time frame. For 2009, the Susitna drainage escapement estimate of 275,000 sockeye salmon was calculated by summing the weir counts at Chelatna, Judd, and Larson Lakes and then using the average ratio between the mark–recapture population estimates and the cumulative weir counts from 2006 to 2008. In 2009, sockeye salmon passage in the Yentna River was estimated with DIDSON, but for comparison purposes, the DIDSON estimate of passage was converted to Bendix units based on previous year’s data when both sonars were used. Thus, the ratio of mark–recapture to Bendix in 2009 was approximately 9.7. Therefore, it appears the sonar estimate was biased lower in 2009 than in earlier years, most likely due to fish wheel selectivity and the large number of odd-year pink salmon migrating up the Yentna River. These data support the conclusion that the sonar estimates, without proper correction for fish wheel selectivity, may not even be an index of the actual escapement. These data also strongly suggest that achievement of the Yentna River sockeye salmon goal in previous years may have been obtained more often than was originally stated. It is even possible that escapements exceeded the goal range in some years when the Bendix sonar/fish wheel passage estimate had indicated otherwise.

At the 2008 BOF meeting, when it was reported that the Bendix sonar/fish wheel species apportionment program had likely been underestimating sockeye salmon passage for years, a debate ensued about the origins of the escapement goal and how salmon escapements were enumerated. It was generally acknowledged that Susitna River sockeye salmon production had declined, but questions were raised about the escapement goal, including (1) how it was originally set; (2) whether or not Yentna River sockeye salmon passage estimates were an index; and (3) how fisheries (sport and commercial) should be managed with respect to the new information about under-counting bias. It was during this meeting that the SSSAP, outlined earlier in this report, was developed and adopted.

To add to the intensity of the issue, in May of 2008, Senate Concurrent Resolution No. 21 was adopted, forming the Cook Inlet Sockeye Salmon Task Force. The task force, composed of 5 members from the Alaska Senate and 5 members from the House of Representatives, was established to (1) examine the conservation and allocation issues in fisheries management of Cook Inlet; (2) scrutinize the economic effect of Cook Inlet salmon and the maximum benefit of those salmon to the people of Alaska; and (3) investigate the legal and constitutional issues of a buy-back program, reducing the number of commercial fishing permits in Cook Inlet. Between May 2008, and January 2009, the task force held 5 public meetings in which ADF&G provided a substantial amount of reports and written material, as well as oral testimony, where a historical perspective of sockeye salmon research and management of Susitna River sockeye salmon stocks was presented. In addition, public testimony was heard at meetings held in Soldotna and in Wasilla.

The task force committed to summarize their findings in a report that would be submitted to the legislature on the first day of the 26th Alaska State Legislature (January 2009). The report was to include (1) the short-term and long-term uses of Cook Inlet salmon consistent with the maximum benefit principle contained within Article VIII, Section 2, Constitution of the State of Alaska; (2) specific proposals to address the conservation issues in the Northern District; and (3)

options to reduce allocative conflict in Cook Inlet, which may include a buy-back program. To date, the task force report has yet to be published.

Because new data revealed sockeye salmon under-counting in the Yentna River, the commissioner initiated an out of cycle Susitna River sockeye salmon escapement goal review late in 2008 (Fair et al. 2009). This analysis concluded that the existing escapement goal for the Susitna River drainage was inappropriate. The report from these analyses recommended the Yentna River sockeye salmon SEG be eliminated and replaced with 3 lake SEGs, as described earlier in this report.

The formation of sockeye salmon individual lake escapement goals within the Susitna River drainage represented a departure from approximately 30 years of management with a Yentna River drainage escapement objective. One of the concerns of the new escapement goals was that they provided no inseason direction to commercial fisheries management. However, it must be noted that the SSSAP was developed with conservation of sockeye salmon stocks in mind, and it did provide guidelines for inseason management of both the Central District drift gillnet fishery and the Northern District set gillnet fishery. For Kenai River sockeye salmon runs of less than 4 million fish (81% of all Kenai River runs since 1978), there are 4 regular period restrictions to the drift gillnet fleet in July per the CDDGFMP and SSSAP. Furthermore, the Northern District set gillnet fishery is limited to fishing no more than one-third of their full allotment of gear from July 20 through August 6, which is the time period when the bulk of the Susitna River sockeye salmon run is transiting the Northern District marine waters.

The escapement goal review report (Fair et al. 2009) recommended the research studies that were initiated in the Susitna River drainage in 2006 be continued with 2 additional objectives: (1) add fish wheel selectivity experiments that might allow historical Bendix estimates of passage to be adjusted to more accurately reflect past escapements in the Yentna River; and (2) test sources of error with the DIDSON system at the Yentna River sonar site to help improve sockeye salmon passage estimates. These and other studies will be continued in the 2010 field season.

The 2009 season marked the first year where the sonar project in the Yentna River was not used for inseason management of sport and commercial fisheries. That said, restrictions in the CDDGFMP and SSSAP were implemented. The forecasted Susitna River sockeye salmon run for 2009 was approximately 670,000 fish (the forecast was calculated by expanding sonar escapement estimates using mark-recapture and genetic stock identification information). The estimated 2009 total sockeye salmon run based on “Bendix-like sonar numbers” was 196,000 (using the same method to calculate the run as was used for the forecast, as described at the beginning of this section). Using this method to estimate the total run suggested the 2009 run was the second smallest run to this system since 1978. Two of the three lake escapement goals were achieved (Judd and Larson Lakes), with the minimum goal of 20,000 fish at Chelatna Lake being missed by approximately 2,000 fish (Table 6). In light of these data, a petition was submitted to the BOF requesting an emergency regulation be passed restricting one drift gillnet fishing period between July 9 to 15, 2010 from Drift Area 1 to the Kenai and Kasilof Sections. The BOF declined the petition at their statewide meeting in March 2010.

In summary, the status of Susitna River sockeye salmon stocks is somewhat unclear. Recent data shows that the sonar program that has been used to estimate passage in the Yentna River for approximately 30 years was biased significantly low. Transition to the DIDSON has resulted in more targets being ensonified, but issues with fish wheel selectivity have resulted in passage

estimates that are very suspect. Studies are ongoing in an attempt to quantify fish wheel selectivity so that corrections can be made to the species apportionment of sonar passage estimates. In the mean time, escapements goals have been established and are being monitored in 3 lakes that are known to be the major producers of sockeye salmon in the drainage. Attempts are also being made to identify and decrease the impacts of beaver dams and northern pike predation on sockeye salmon production. Restrictions to commercial fishing gear and areas fished, per the SSSAP, has also reduced the exploitation of Susitna River sockeye salmon stocks.

Crescent River

After experiencing record-level runs through the mid to late 1980s, Crescent River sockeye salmon runs declined dramatically and remained depressed throughout most of the 1990s. In 1996, limnological studies were initiated to determine whether the decline in sockeye salmon production was related to changing conditions in Crescent Lake, the major nursery lake in this watershed. These studies revealed a low abundance of the primary food resource for juvenile sockeye salmon in Crescent Lake, namely, the cyclopoid copepod *Cyclops scutifer* (Edmundson and Edmundson 2002). Unfortunately, these studies were terminated in 2001 due to lack of funding. However, within the limited scope of these investigations, some hypotheses were developed. First, it was theorized that that increased turbidity levels in the lake prior to 1996 resulted in a reduction in primary production associated with a lack of light penetration, which drives photosynthesis. Another possible source of the decline in production was attributed to a top-down grazing effect on the *Cyclops* population from sockeye salmon fry produced from large escapements beginning in 1984. In speculating on the mechanisms responsible for the reduced sockeye salmon runs to this system, Edmundson and Edmundson (2002) cited that it was likely some combination of increased turbidity and over-grazing of the forage base. The exact cause for the shift in turbidity could not be isolated before the project was terminated, but the limited 36 data set did provide the grounds for a recommendation that the sockeye salmon BEG for this system should be reduced, which it was, from 50,000-100,000 fish to 25,000-50,000 fish, beginning in 1999. Since 2000, however, sockeye salmon runs to Crescent Lake showed improvement (Table 8), which resulted in modifying the BEG at Crescent Lake from 25,000–50,000 fish to 30,000–70,000 fish beginning in 2005. In 2008, Approximately 62,000 sockeye salmon were estimated to have escaped Crescent Lake (Appendices A2 and B10), which marked the first year since 1998 that escapements fell within the escapement goal range. For the past few years, set gillnet fishing in the Western Subdistrict south of Redoubt Point has been allowed 24 hours per day nearly all of July. In 2009, this area was opened for three 29-hour fishing periods per week from July 2 through August 2 (Appendix A11). Many fishermen and nearly all processors abandoned the fishery during the 1990s because of diminished returns and considerable restrictions placed on the fishery in order to achieve escapement goals. As a result of the reduced fishing effort, the average annual exploitation rate on Crescent River sockeye salmon stocks from 2000 to 2008 was only 32%, even with all the extra fishing time allowed.

Table 8.—Crescent Lake sockeye salmon average escapement, harvest and run, 1976–2008.

Decade	Average Annual Escapement (thousands)	Average Annual Commercial Harvest (thousands)	Average Annual Total Run (thousands)
1976–1979	75	56	130
1980–1989	87	82	169
1990–1999	50	23	73
2000–2008	85	42	127

In 2009, the sonar project was not run at the Crescent River due to safety concerns for employees, as a result of numerous Redoubt Volcano eruptions prior to the field season. As stated earlier in this report, sockeye salmon commercial harvest data in late June and early July suggested that additional exploitation on this stock was warranted. Approximately 61,000 sockeye salmon were harvested by set gillnetters in the immediate area around the Crescent River terminus, which was the largest harvest observed in the past 21 years. Two sources of anecdotal information corroborate the assumption that the sockeye salmon run to Crescent Lake in 2009 was well above average. First, the lodge owner on Crescent Lake stated that he thought the 2009 run was the largest he had ever seen, and secondly, ADF&G genetics staff were at Crescent Lake in mid-August collecting tissue samples from sockeye salmon spawners and noted significant numbers of fish where they were working (Dave Westerman, Commercial Fisheries Biologist, ADF&G, Soldotna, Alaska; personal communication). The escapement into Crescent Lake in 2009 was estimated at more than 125,000 fish. This estimate was made by comparing previous year's commercial harvest data to known escapement levels. The escapement goal for Crescent Lake sockeye salmon is 30,000–70,000 fish, so it is possible the escapement goal for this system was widely exceeded in 2009.

Fish Creek

From 1997 to 2009, sockeye salmon runs to Fish Creek, which drains Big Lake and flows into Knik Arm, have been highly variable, with a mixed result of achieving the established escapement goal for this system ADF&G projected a total sockeye salmon run to Fish Creek in 2009 of 53,000 fish. The estimated run, however, exceeded 120,000 fish, resulting in an escapement of more than 83,000 sockeye salmon, and for the first time since 2001, the personal use dip net fishery was opened. At the 2002 board meeting, ADF&G's escapement goal review team recommended the Fish Creek goal be changed from a point goal of 50,000 to an SEG of 20,000 to 70,000 fish. During the past 13 years, escapements fell below the goal 6 years, were met 4 years, and exceeded the goal 3 years (Table 9, Appendix A2 and B10). The average annual total sockeye salmon run to Big Lake from 1980 to 1997 was 212,000 fish, but from 1998 to 2001 and 2004 to 2008 (8 total years), the average annual return fell to 42,000 fish (Tobias and Willette 2004). Conversely, the total sockeye salmon run to Fish Creek in 1997, 2002–2003, and 2009 was more than 3 times this amount, averaging nearly 135,000 fish annually. The number of smolt emigrating Big Lake from 2003–2008 has ranged from 117,000 to 631,000 fish (<http://www.ciaanet.org/>).

Table 9.—Production of sockeye salmon in Big Lake, 1997–2009.

Year	Total Run	Weir	Spawners	Fry Release	Pre Smolt Release	Smolt Release	Smolt Emigration	
							Age-1	Age-2
1997	131,814	54,656	48,513					
1998	45,622	22,859	18,789	5,000,000				
1999	45,714	26,749	25,199	197,000				
2000	37,635	19,533	16,704	846,000				
2001	70,013	43,486	39,093	0				
2002	133,826	90,482	86,181	4,316,000				
2003	150,612	91,952	86,858	3,589,000			114,654	2,340
2004	42,740	22,157	20,065	5,000,000			251,195	25,632
2005	22,548	14,215	12,140	1,742,300			135,739	22,623
2006	37,118	32,562	26,712	444,200	426,000		205,135	19,307
2007	48,344	27,948	23,845	3,812,400	702,500	315,700	278,351	30,928
2008	26,872	19,339	19,314	3,610,000	0	433,000	592,919	38,785
2009	121,965	83,477	83,477	0	0	0	nd	nd

A technical review assessing Big Lake sockeye salmon production was completed prior to the 2002 BOF meeting (Litchfield and Willette 2002). This report proposed 2 likely causes for the decline in sockeye salmon production: (1) degradation of spawning habitat as a result of questionable hatchery practices, and (2) placement of a coffer dam at the outlet of the lake, which prevented many wild fry from being able to recruit into the lake, as well as causing a productive spawning area at the lake outlet to be filled in with silt and mud. At the 2002 board meeting, Fish Creek sockeye salmon were found to be a stock of yield concern and ADF&G proposed additional studies to more clearly define the limitations to sockeye salmon production in this system. As a result of identifying the coffer dam as a barrier to upstream migration of juvenile sockeye salmon fry, modifications were made at the lake outlet that allowed fry to more easily recruit into Big Lake. It was expected that more adults would again utilize this productive spawning area. Fish-hatchery culture methods and stocking procedures were also modified with the hope that these changes combined with the modifications at the lake outlet would improve sockeye salmon production in Big Lake. That said, the long-term outlook for Big Lake sockeye salmon is unclear. Cautious optimism led ADF&G to recommend removing Big Lake sockeye salmon as a stock of yield concern at the 2005 board meetings. Yet sockeye salmon production from Big Lake remains somewhat of a mystery. Even when the recommended number of spawners for the system has been met, the production of wild-produced smolt has been poor. Furthermore, CIAA has been stocking the lake with sockeye salmon fry for a number of years, but fry to smolt survival has also been very poor (Dodson 2006). In an attempt to try and isolate the mechanisms leading to poor juvenile survival, CIAA released fish at 3 different time intervals, summer (fry), fall (pre-smolt), and spring (smolt). Unfortunately, the number of smolt emigrating Big Lake did not increase nearly as much as expected from the later releases. Therefore, as a result of the poor fry to smolt survival in Big Lake, CIAA ceased enhancement activities after the fry release in 2008.

The total sockeye salmon run to Big Lake for 2010 was estimated at 142,000 fish (Appendix C2). Commercial fishery exploitation of Big Lake sockeye salmon for the past 10 years has averaged 32%. If this holds true for 2010, and the run returns as forecasted, then approximately 100,000 fish could escape Big Lake in 2010.

2010 Sockeye Salmon Outlook

A run of 3.6 million sockeye salmon is forecasted to return to UCI in 2010, with a harvest by all user groups of 2.3 million fish (Appendix C2). The harvest forecast in 2010 is about 1.7 million fish below the 20-year average harvest by all user groups of 4.0 million and approximately a half million fish less than what was harvested in 2009. The sockeye salmon run forecast for the Kenai River is 1.7 million, which is 45% less than the 20-year average run of 3.1 million fish. The age 1.3 sockeye salmon returning in 2010 to the Kenai River are the progeny from an overescapement of 1,114,000 spawners in 2005. A sibling model based upon the return of age 1.2 sockeye salmon in 2009 (86,000; 20-year average: 238,000) predicted a return of 1.0 million age 1.3 sockeye salmon. A fry model based upon the abundance of fry rearing in Skilak and Kenai lakes in the fall of 2006 (29.6 million; 20-year average: 18.5 million) predicted a return of 2.5 million age 1.3 sockeye salmon. The sibling model was used for this forecast because the 10-year mean absolute percentage error (MAPE) was lower for the sibling model (27%) than the fry model (55%). If the Kenai River sockeye salmon run returns as forecast, it is very likely that commercial fisheries targeting this stock will need to be restricted or closed in order to achieve the inriver goal of 650,000 to 850,000 fish. If the forecast is correct, there is approximately one

million Kenai River fish available for harvest after the minimum escapement goal of 650,000 is subtracted from the total run. The recent 5-year average (2005–2009) harvest of Kenai River sockeye salmon below the sonar is approximately 310,000 fish. This would leave at most, approximately 700,000 Kenai River sockeye salmon available for harvest in the commercial fishery. In 2009, the estimated commercial harvest of Kenai River stocks was 1.4 million fish, and this was achieved with 2 regular period closures and very little additional fishing time outside of regular Monday and Thursday fishing periods.

The sockeye salmon run forecast for the Kaslof River in 2010 is 901,000 fish, which is 6% less than the 20 year average run of 958,000. The forecast for the Susitna River is 542,000, which is 41% less than the 20 year average run of 913,000 (see Appendix C2 for an explanation of how Susitna River sockeye salmon run forecasts have changed to better reflect actual numbers of fish). The sockeye salmon run forecast for Fish Creek is 142,000, which is 2% greater than the 20-year average run of 139,000. Finally, the sockeye salmon run forecast for Crescent River is 148,000, which is 47% greater than the 20-year average run of 101,000.

Pink Salmon

Pink salmon runs in UCI are even-year dominant, with odd year average annual harvests typically less than one-seventh of even-year harvests (Appendix B4). Pink salmon are generally taken in significant quantities in UCI beginning in late July and the first weeks in August. The 2009 UCI harvest of approximately 214,000 pink salmon represents the largest odd-year harvest since 1977, and was 171% greater than the 1979–2007 ($n=15$) odd-year average annual harvest of 79,000 fish. As noted throughout this report, however, it is difficult to gauge the status of various stocks based solely on commercial harvest data. In this case, even with various restrictions and complete closures of commercial fishing periods in 2009, the pink salmon harvest was unexpectedly robust for an odd-year.

Table 10.—Upper Cook Inlet pink salmon commercial harvests and Deshka River escapements, 1996–2009.

Year	UCI Pink Salmon			
	Commercial Harvest		Deshka River Enumeration	
	Even-Year	Odd-Year	Even-Year	Odd-Year
1996	242,911		37,482	
1997		70,933		1,101
1998	551,260		541,946	
1999		16,174		766
2000	146,482		1,248,498	
2001		72,559		3,845
2002	446,960		946,255	
2003		48,789		9,214
2004	357,939		390,087	
2005		48,419		7,088
2006	404,111		83,454	
2007		147,020		3,954
2008	168,890		12,947	
2009		214,321		no data

Prior to 2009, pink salmon were encountered at a weir on the Deshka River and enumerated (Table 10). This project no longer enumerates pink salmon and there are no escapement goals in UCI for this species. Thus, the only data collected on pink salmon stocks are commercial fish harvests, recreational fishing success, and some information at projects that are designed to enumerate other species. In general, pink salmon stocks in UCI have maintained their even-year dominance, albeit the 2007 and 2009 harvests may be indicating that odd-year runs are beginning to increase. Although pink salmon enumeration data is limited, ADF&G did conduct a marine tagging project designed to estimate the total population size, escapement, and exploitation rates for coho, pink, and chum salmon returning to Upper Cook Inlet in 2002 (Willette et al. 2003). This study estimated the exploitation rate on pink salmon by the UCI commercial fishery to be no more than 12%, and likely very much lower. These data would suggest that this stock, if anything, is largely under-exploited and is in no apparent danger from overfishing.

Chum Salmon

Chum salmon returns to UCI are concentrated predominately in the western and northern watersheds, with the most significant harvest coming from the Central District drift gillnet fleet. The 2009 UCI commercial chum salmon harvest of approximately 83,000 fish was the largest harvest in the past 5 years, yet significantly less than the 1966–2008 average of nearly 470,000 fish (Appendix B6). With all the restrictions placed on the drift fleet in 2009, as outlined in this report, reduced chum salmon harvests would not be unexpected. Evaluation of chum salmon runs is made difficult because of the lack of information other than commercial harvest data. Chum salmon are no longer enumerated at either the Deshka River or Little Susitna River weirs. They are captured in the OTF project, but this project was designed temporally and spatially to assess UCI sockeye salmon stocks. The only chum salmon escapement goal in all of UCI is an aerial survey SEG in Chinitna Bay (Clearwater Creek) set at 3,800–8,400 fish (Fair et al. 2007). This SEG has been met or exceeded every year since it was established in 2002. As a result, drift gillnetting has been opened via emergency order in Chinitna Bay each of the past 4 years per 5 AAC 21.320(c)(1).

While ADF&G lacks long-term quantitative chum salmon escapement information, escapements to streams throughout UCI have benefited by management actions or regulatory changes aimed principally at other species. These actions have included (1) significant reductions in the offshore drift gillnet and Northern District set gillnet fisheries to conserve Yentna River sockeye salmon, (2) adoption of the Northern District Salmon Management Plan (5 AAC 21.358), which states that its primary purpose is to minimize the harvest of coho salmon bound for the Northern District, (3) the lack of a directed chum salmon fishery in Chinitna Bay, and (4) harvest avoidance by the drift fishery as a result of lower prices being paid for chum salmon than for sockeye salmon. Other than the aerial census counts in Chinitna Bay, most of the sporadic chum salmon data available to assess annual runs can at best be used to make very general conclusions, i.e. the run was below average, average, or above average. So, although the commercial harvest in 2009 was better than the past few years, even with commercial fishing restrictions and closures, the 2009 UCI chum salmon run was likely below average. This characterization was also corroborated by the OTF project. The 2009 OTF cumulative chum salmon CPUE of 303 was approximately 45% less than the 2000–2008 average of 552 (Shields and Willette *In prep*). That said, these data do not indicate a significant issue with UCI chum salmon stocks. The 2002 marine tagging project estimated the commercial fishery exploitation rate on chum salmon at 6% (Willette et al. 2003). Even though the 2009 chum salmon run appears to have been below average, the commercial fishery exploitation rate on this stock is also very low and the escapement objective in Chinitna Bay has

been consistently achieved. So, unless the limited amount of data on chum salmon runs in UCI reveals significant changes, there are no immediate concerns for UCI chum salmon stocks.

Coho Salmon

Commercial coho salmon harvests in UCI during the 1980s and early 1990s were much higher than the long term average (Appendix B3). This can be attributed to good coho salmon production, but also due to strong sockeye salmon runs to UCI, resulting in additional fishing time in the Central District and increased coho salmon harvests. Recent coho salmon harvest statistics, however, may or may not be a true indication of run strength, largely due to regulatory changes that were made to reduce coho salmon commercial harvests.

For example, coho salmon runs in 1997 and 1999 were viewed as mediocre to poor, prompting BOF measures in 1997, 1999 and 2000 that placed restrictions on sport and commercial fishermen in much of UCI. From 2000 to 2004, the commercial set gillnet fishery in the Upper Subdistrict was closed no later than August 7, and no more than one emergency order, not to exceed 24 hours in duration, was allowed during the month of August. These actions resulted in marked reductions in commercial coho salmon harvests. Ironically, the 2000 coho salmon run appeared to be much improved (Table 11) with the 2001 run being even stronger yet, and finally the 2002 run being exceptional, perhaps even a record run⁴. Therefore, at the 2005 BOF meetings, the restrictions on fishing in August in the Upper Subdistrict set gillnet fishery and Central District drift gillnet fishery were moderately relaxed. Both fisheries' closing dates were changed to no later than August 10, with the set gillnet fishery to be managed under the same set of weekly guidelines in August that were applicable in July. In 2008, the board extended the Upper Subdistrict set gillnet fishing season to no later than August 15 and the full Central District drift gillnet fishing season to the same ending date. This change was due in part to data revealing good coho salmon runs and low Kenai River coho exploitation by commercial fishermen during this extended time period.

Table 11.—Coho salmon escapement and enumeration, 1996–2009.

Year	Cottonwood Creek	Fish Creek	L. Susitna River	Wasilla Creek	Deep Creek	OTF CPUE
1996			15,803			534
1997	936	2,578	9,894	670	2,017	362
1998	2,114	5,463	15,159	3,777	1,541	403
1999	478	1,766	3,017	1,587	2,267	294
2000	1,888	5,979	14,436	6,154	3,408	766
2001	3,525	10,047	30,587	6,784	3,747	838
2002	4,270	15,187	48,308	13,195	6,132	798
2003	791	2,142	11,127	3,712		368
2004	2,004	3,234 ^a	40,199			785
2005			16,839 ^b			367
2006			8,786 ^b			1,034
2007			17,573			482
2008			18,485			718
2009			9,523			

^a Represents a partial count, the weir was pulled before the coho salmon run was complete.

^b Weir washed out, count incomplete.

⁴ Yanusz, R., J. Carlon, D. Bosch, and R. Clark. *Unpublished* (2002). Stock status of coho salmon in Upper Cook Inlet, a report to the Alaska Board of Fisheries. Located at: Alaska Department of Fish and Game, Division of Sport Fish, 333 Raspberry Road, Anchorage.

Northern District

Since 2005, the Division of Sport Fish has used coho salmon weir counts at the Little Susitna River as a surrogate of escapement for all Knik Arm coho salmon stocks. The SEG for this system was set in 2000 at 10,100 to 17,700 fish (Fair et al. 2007) and has been met or exceeded each year since, other than 2009 (Table 11). It should be noted that the weir washed out early in 2006, but based on the inriver sport fishing performance, the 2006 coho salmon run in the Little Susitna River was categorized as “very early and very, very strong” and the SEG was undoubtedly achieved (Dave Rutz, Sport Fishery Biologist, ADF&G, Palmer; personal communication). The weir also washed out early in 2005, which means the estimated passage of 16,839 fish was less than the actual unknown escapement. The 2009 coho salmon escapement in the Little Susitna River was the smallest since 1999, missing the lower end of the SEG by approximately 600 fish. No actions were taken in the 2009 sport fishery in the Little Susitna River. However, the bag and possession limit for coho salmon was increased from 2 per day and 2 in possession to 3 per day and 3 in possession in those waters of the Knik Arm Drainage Area open to salmon fishing, except in the Little Susitna River.

Although there are several regulatory management plans pertinent to the Susitna River that direct ADF&G to manage for coho salmon, there are no escapement goals or comprehensive sustained yield objectives for Susitna River drainage coho salmon. Sustained yield is thought to be provided for by basic bag limits and seasons in the sport fishery and inseason management of the commercial fishery⁵. In summary, Northern Cook Inlet coho salmon stocks are considered to be in good condition.

Kenai River

From 1999 to 2004, the total return of Kenai River adult coho salmon was estimated annually by: (A) the population specific harvest in marine commercial fisheries, (B) the inriver sport and personal use harvest, and (C) the spawning escapement (Carlson and Evans 2007; Massengill and Evans 2007). The sum of these 3 components (A+B+C) provided the estimates of annual adult production, although no escapement goal exists for this system. Smolt enumeration studies were conducted in the Moose River, a Kenai River tributary that has been shown to be a very important rearing environment for juvenile coho salmon, from 1992 to 2007 (Massengill and Carlson 2007). As a result of increasing sport and commercial harvest levels in the early 1990s, combined with a decreasing trend in Moose River smolt production from 1993 to 1997, the BOF implemented conservation measures at the 1997 and 2000 meetings to reduce sport and commercial exploitation of Kenai River coho salmon. Since 1997, the drainagewide coho salmon smolt emigrations have stabilized. Interestingly, the 1999 record low adult escapement estimate of 7,364 fish produced a smolt emigration in 2001 that was only slightly below the historical average. Conversely, the record low smolt emigration in 1997 of 374,225 fish produced what was believed to be a very weak return of adults in 1998, although the total return strength for that year is unknown. Since 2000, Kenai River adult coho salmon runs have been considered good to excellent. In response to an emergency petition from the Kenai-Soldotna Fish and Game Advisory Committee in 2004, the BOF extended the Kenai River sport fishing season for coho salmon from September 30 to October 31. This decision was based upon ADF&G data that projected an escapement of Kenai

⁵ Lafferty, R., R. Massengill, T. Namtvedt, D. Bosch, and J. Hasbrouck. *Unpublished*. Stock status of coho salmon in Upper Cook Inlet, Alaska. Alaska Department of Fish and Game, Report to the Alaska Board of Fisheries, 2005, Anchorage.

River coho salmon above the 1999–2003 average. In 2005, the BOF repealed the Kenai River Coho Salmon Conservation Management Plan (5 AAC 21.357) and extended the Kenai River coho salmon sport fishing season in regulation through October 31. This latter change was based on an expectation of low October fishing effort and recent (2000–2004) exploitation data, which indicated that Kenai River coho salmon returns were exploited at a rate below that deemed sustainable. Unfortunately, 2004 was the final year that mark–recapture abundance estimates were generated for Kenai River adult coho salmon. In 2008, the BOF extended the Upper Subdistrict set gillnet fishing season from a closing date of August 10 to no later than August 15, with the caveat that from August 11 to August 15 the fishery was to be open for regular periods only. The districtwide Central District drift gillnet fishery was also extended to August 15. This additional commercial fishing time was granted in response to reports BOF received at their 2008 meeting showing that during the 6 years that the total annual run of Kenai River coho salmon was estimated, the Upper Subdistrict fishery harvested between 0.3% to 6% of the run annually. Estimates were also provided to the BOF that showed the combined additional daily exploitation rate by both set and drift gillnet fisheries on Kenai River coho salmon stocks at this time in August was estimated to range between 0.78% to 1.43% for each additional day fished. In 2008, the fishing season extension would have provided 2 additional days of fishing (August 11 and 15), but both of these fishing periods were closed as a result of the poor sockeye salmon run. In 2009, the extension of the season beyond August 10 would have provided one additional day of fishing (August 13), but this period was also closed due to the 1% sockeye salmon rule (see Emergency Order No. 32 in Appendix A10). In 2010, the extension of the fishing season will provide for only one additional fishing period (August 12).

Beginning in 2005, fish wheel catch rate data provided a tool to index Kenai River coho salmon abundance into 1 of 3 general classes (low<50K; 50K<med<120K; high>120K) by utilizing inseason fish wheel catch rate data plotted into a regression of historical fish wheel catch rates to abundance estimates. The index level assigned to the 2005 and 2006 Kenai River adult coho salmon returns arriving at the fish wheel site (river mile 28) was characterized as “medium,” while the 2007 run was characterized as “low,” however, the 2007 index may have been biased low as preliminary information indicates an unexpected drop in fish wheel efficiency may have occurred (Robert Massengill, Sport Fishery Biologist, ADF&G, Soldotna; personal communication). The last year this project was active was in 2007.

Currently, there are no anticipated research projects to assess the abundance or productivity of Kenai River coho salmon. This is in response to budgetary constraints, but it also reflects the fact that at this time there are no known serious issues with Kenai River coho salmon stocks.

Chinook Salmon

Northern District

After experiencing a marked decline in abundance in the early to mid 1990s, Northern District Chinook salmon stocks rebounded, with exceptional runs measured at the Deshka River weir, the only site where Chinook salmon are totally enumerated in the Northern District (Table 12). From 1999 through 2006, the upper end of the Deshka River BEG of 13,000 to 28,000 fish (Fair et al. 2007) was exceeded. As a result of the strong runs during this time, there were numerous liberalizations to the inriver sport fishery via inseason emergency orders. In addition, in 2005 the BOF lengthened fishing periods for the commercial fishery from 6 to 12 hours and in 2008 allowed the commercial fishery to remain open through June 24 (Monday periods only). The

commercial fishery harvest cap of 12,500 Chinook salmon remained in effect. The 2007 Deshka River run, albeit less than originally anticipated, fell within the BEG range. The 2008 and 2009 runs, which were projected to be smaller than average, were both poor returns, resulting in closures to both sport and commercial fisheries. The lower end of the BEG was not achieved either year.

In 2008, the final fishing period during the Northern District commercial Chinook salmon fishery was closed, as was the first period during the regular salmon season (Shields 2009). In response to a small projected Chinook salmon run to the Deshka River in 2009, the BOF passed an emergency regulation (from their own petition) reducing the open fishing time from 12 hours to 6 hours each for the first 2 commercial fishing periods in 2009 (May 25 and June 1). The third period of the season, June 8, was fished for 12 hours, but low passage rates at the Deshka River weir necessitated a closure of the commercial fishing periods scheduled for June 15 and 22 (see Emergency Order No. 1 and 2 in Appendix A10). The final passage estimate in 2009 was approximately 12,000 fish, or about one thousand fish below the lower end of the BEG.

Table 12.—Deshka River Chinook salmon passage, 1995–2009.

Year	Passage	Year	Passage
1995	10,044	2003	40,069
1996	14,349	2004	57,934
1997	35,587	2005	37,725
1998	15,409	2006	31,150
1999	29,649	2007	18,714
2000	35,242	2008	7,533
2001	29,004	2009	11,960
2002	29,427		

Since 2005, the average annual commercial Chinook salmon harvest by the directed Northern District set gillnet fishery has been 3,050 fish. The average annual harvest since 1993, which is when registration requirements went into effect, has been approximately 2,400 fish per year. For more details on the Northern District Chinook salmon commercial fishery, see the 2009 commercial fishery section earlier in this report.

The Division of Sport Fish has forecasted the 2010 Chinook salmon run to the Deshka River at 31,000 fish, with a total harvest projection of 6,800 fish. If realized, it would result in a 2010 escapement of about 24,000 fish.

At this time there are no Northern District Chinook salmon stocks of concern.

Kenai River

Since 1986, Kenai River late-run Chinook salmon estimates of inriver passage have been completed via sonar by the Division of Sport Fish. The late-run Chinook salmon returns have been relatively stable and escapement objectives have been consistently achieved or exceeded. The early-run Kenai River Chinook salmon return migrates through Cook Inlet in May and June, and therefore receives very little to no commercial exploitation. Kenai River Chinook salmon stocks receive a great deal of public and ADF&G scrutiny and reveal no concerns at this time.

COMMERCIAL HERRING FISHERY

The 2009 UCI herring fishery resulted in a harvest of 9.2 tons (Appendix B8), with all of the harvest coming from the Upper Subdistrict. A total of 10 permit holders reported fishing, which is down slightly from previous years. Appendix A17 summarizes the age, weight, size, and sex distribution from samples collected during the 2009 fishery. It must be noted that these samples were obtained from the set gillnet fishery and may reflect biases in the gear type used to collect the samples as much as variation in the size and population structure of the stock. Nevertheless, 5 age classes dominated the population, comprising 99.6% of the 276 samples collected from 3 sample dates. The average by age-class was: age-4 (15%), age-5 (33%), age-6 (31%), age-7 (16%) and age-8 (4%). Herring harvested in UCI were used exclusively for personal use or bait. Because Prince William Sound and Kamishak Bay herring fisheries have remained closed for many years, bait herring from UCI has risen in value. Demand by commercial and sport halibut fishermen has resulted in an average price of approximately \$0.90/lb to \$1.00/lb or \$1,800/ton to \$2,000/ton. Based on this price, the estimated exvessel value of the 2007 commercial herring fishery was approximately \$18,000.

COMMERCIAL SMELT FISHERY

Commercial smelt harvests in UCI have ranged from 300 pounds to 63.7 tons (Table 13). For more details about the history of smelt fishing in UCI, see Shields (2005). In 2009, 6 permit holders participated in the commercial dip net smelt fishery (5 AAC 21.505 Cook Inlet Smelt Fishery Management Plan) harvesting approximately 39.1 tons. The average price of \$0.50/lb netted an exvessel value of the 2009 smelt fishery at approximately \$39,000. Estimating the exvessel value is problematic though because the small number of fishermen harvesting these fish will market their own catch, with much of the product being shipped to the west coast, where it is sold for bait and human consumption. The harvest quota for this fishery is 100 tons, which easily could have been caught based on reports from those fishermen who took part in the fishery, as significant quantities of smelt were observed migrating up the Susitna River. Fishermen were able to dip net the fish in a relatively short period of time. Harvest was limited by market demand and the logistics of getting the product to a location where the smelt could be off-loaded and processed.

Table 13.—Commercial smelt harvest, 1978, 1980, 1998–1999, and 2006–2009.

Year	Lbs	Tons	Permits
1978	300	0.2	NA
1980	4,000	2.0	NA
1998	18,610	9.3	2
1999	100,000	50.0	NA
2006	90,783	45.4	8
2007	125,044	62.5	11
2008	127,365	63.7	6
2009	78,258	39.1	6

Most of the 2009 smelt harvest was transferred from skiffs and loaded into drift boats, where it was transported to either Kenai or Ninilchik and frozen for shipment. Analyses of samples collected from the harvest showed that age-4 smelt were the dominate age, comprising 73% of the sample taken in 2009 (Appendix A18). This was similar to that observed in 2006 (80%), 2007 (81%) and 2008 (73%). The average fork length from the 2009 harvest ranged from 191 to 203 mm, with an overall average of 198 mm, which was slightly larger than the 2006–2008 average size of 192 mm. The male to female ratio in 2009 was 55% to 45%, while the 2006–2008 average male to female ratio was 65% to 35%. It should be noted that samples collected for age and size data were from a single date, and therefore would not reflect possible temporal changes in the population structure.

COMMERCIAL RAZOR CLAM FISHERY

The razor clam fishery on the west side of Cook Inlet has historically been confined to the area between Crescent River and Redoubt Point. All clams harvested in this area are directed by regulation to be sold for human consumption, except for the small percentage (less than 10% of the total harvest) of broken clams, which may be sold for bait. Razor clams are present throughout this area, with dense concentrations in the Polly Creek and Crescent River areas. The Department of Environmental Conservation certified additional beach area for harvesting clams for human consumption beginning in 1993. The additional area is located north of the existing certified beach at Polly Creek, north to Redoubt Creek. This certification was extended further north to Harriet Point in 1994. In the remainder of the Upper Cook Inlet Management Area, there are no restrictions on the amount of clams that can be sold for bait. Currently though, there is no directed effort to harvest razor clams for the bait market. The minimum legal size for razor clams is 4.5 inches (114 mm) in shell length.

The 2009 harvest, taken primarily from the Polly Creek/Crescent River area, was approximately 361,000 pounds (in the shell) (Appendices A21 and B9). A total of 20 diggers participated during the season, reporting harvest from 50 different days spanning the time period from May 21 to July 27. Diggers were paid an average of \$.62 per pound for their harvest, resulting in an exvessel value for this fishery of \$224,000. The average clam size from the 2009 harvest was 141 mm, or 5.5 inches (Figure 8).

The 2009 summer tide schedule can be found in Appendix A19.

SUBSISTENCE FISHERIES

There is a long history of Alaskans harvesting fish and game for their personal consumptive needs under sport, subsistence, and commercial fishing regulations in the Cook Inlet area (Braund 1982). Since 1978, when the State of Alaska passed its first subsistence statute (AS 16.05.258), many changes have occurred in the regulations governing the harvest of fish and game for personal consumption in Cook Inlet. Beginning in 1981, a new category of fisheries was established. Personal use fishing was created to provide for the personal consumptive needs of state residents not able to meet their needs under other fisheries. Since their creation, numerous changes have occurred in the personal use or subsistence fisheries in Cook Inlet, with many of the changes coming as a result of challenges in the State of Alaska Court System, the Alaska State Legislature, or BOF process. The only personal use or subsistence fishery that has occurred consistently in Cook Inlet during this entire period is the Tyonek Subsistence fishery. A review of the various personal use and subsistence fisheries that have been conducted in Cook

Inlet are reported in Brannian and Fox (1996), Reimer and Sigurdsson (2004), and Dunker and Lafferty (2007).

TYONEK SUBSISTENCE SALMON FISHERY

The subsistence fishery in the Tyonek Subdistrict was mandated by an Anchorage Superior Court order in May 1980. In March 1981, the BOF adopted permanent regulations for this fishery. Originally open only to those individuals living in the village of Tyonek, recent court decisions allow any Alaskan resident to participate, although very few non-villagers seek permits. Fishing is allowed only in the Tyonek Subdistrict of the Northern District. A limit of 1 permit per household can be obtained and each permit holder is allowed a single 10-fathom gillnet, with a mesh size no greater than 6 inches. Fishing is allowed from 4:00 a.m. to 8:00 p.m. each Tuesday, Thursday, and Friday from May 15 to June 15, or until 4,200 Chinook salmon have been harvested. Fishing is again allowed from 6:00 a.m. to 6:00 p.m. each Saturday after June 15, although the opening is delayed until July 1, if 4,200 Chinook salmon were taken before June 16. The permit allows 25 salmon per permit holder and 10 salmon for each additional member. However, 5 AAC 01.595(a)(3) allows for up to 70 Chinook salmon per permit holder in the Tyonek Subsistence fishery. Annual Chinook salmon harvests have ranged from a low of 639 in 1997 to as many as 2,665 in 1983 (Appendix B15). The preliminary harvest from the 2009 Tyonek subsistence fishery was 573 Chinook, 102 sockeye, 237 coho, 1 pink, and 2 chum salmon. These harvests will likely increase when all the permits are returned.

UPPER YENTNA RIVER SUBSISTENCE SALMON FISHERY

A subsistence salmon fishery is allowed in the Yentna River drainage outside the Anchorage-Matsu-Kenai non subsistence area, as described in 5 AAC 99.015(a)(3). The provisions of this fishery allow for the harvest of 25 salmon per head of household, plus 10 more for each dependent. All Chinook salmon and rainbow trout must be returned to the water alive. The specific area open for the fishery is in the mainstem Yentna River from its confluence with Martin Creek upstream to its confluence with the Skwenta River. Legal gear consists of fish wheels only. The subsistence fishing season occurs from July 15 through July 31 from 4:00 a.m. to 8:00 p.m. each Monday, Wednesday, and Friday during this time frame. The preliminary harvest reports from the 2009 Yentna River subsistence fishery show that 253 sockeye, 14 coho, 0 pink, and 6 chum salmon were harvested by 16 permit holders (Appendix B15).

EDUCATIONAL FISHERIES

Educational fisheries first began in UCI in 1989 with the Federal Court-ordered subsistence fishery for the Kenaitze Indian Tribe (Sweet et al. 2004). The fishery was labeled as a subsistence fishery due to differences in interpretations of subsistence. The Alaska Superior Court ordered ADF&G to issue educational fishing permits beginning with the 1993 fishing season. The present guidelines for educational fisheries are established by the BOF under chapter 93 of the Alaska Administrative Code. The standards for an educational fishery program include: (1) instructors must be qualified to teach the subject matter; (2) students must be enrolled; (3) there are minimum attendance requirements; (4) procedures for testing a student's knowledge of the subject matter or the student's proficiency in performing learned tasks must be administered; and (5) standards for successful completion of the program must be set. According to 5 AAC 93.210, the commissioner will issue a nontransferable, no-cost educational fishery permit to an applicant who proposes to operate an educational fishery program that meets

the above standards, except in the following cases: (1) when the commissioner determines that the educational objective of the program can be accomplished under existing fisheries statutes and regulations; (2) the sustained yield of any fishery resource would be jeopardized or the fishery resource would be significantly reallocated among existing users; (3) the applicant failed to provide the information required by the permit; (4) the applicant violated a condition or requirement of an educational fishery permit; or (5) the applicant failed to comply with the reporting requirements of the permit.

The total harvest from all educational fisheries in 2009 was 9,397 fish, which was the largest harvest ever recorded since the educational fisheries began (Appendix B16). The average annual harvest from 1994 through 2009 has been approximately 6,008 fish.

CENTRAL DISTRICT EDUCATIONAL FISHERIES

In the Central District of UCI there currently are 6 groups permitted to conduct educational fisheries, including the Kenaitze Tribal Group, Ninilchik Traditional Council, Ninilchik Native Descendents, Ninilchik Emergency Services, Anchor Point VFW, and the Kasilof Historical Association.

In 1993 a state court ordered ADF&G to create an educational fishery for the Kenaitze Indian Tribe, pending final court rulings on other subsistence cases. The objectives for educational fisheries are specified in 5 AAC 93.235 as “educating persons concerning historic, contemporary, or experimental methods for locating, harvesting, handling, or processing fishery resources.” A summary of the harvest from all the educational fisheries in UCI is in Appendix B16. In 2009 the Kenaitze Tribe harvested 53 Chinook, 5,683 sockeye, 769 coho and 63 pink salmon, for a total of 6,568 salmon, which was their second largest harvest ever. From 1993 through 2009, the average annual harvest of all salmon by the Kenaitze Indian Tribe has been 4,254 fish. The total fish harvest quota for this group is 8,000 fish.

In 1993 the Ninilchik Traditional Council (NTC) applied for and was granted a permit for an educational fishery (Szarzi and Begich 2004). In 1998, a group of NTC members formed a new organization, the Ninilchik Native Descendents (NND), and requested a separate permit with similar goals of passing on traditional knowledge and providing food for needy tribal members. Initially 1 permit was issued for both groups, but this was not acceptable to the NTC and both groups were allowed to fish concurrently. There have been a number of changes to the annual harvest limits allowed under these permits, but the total salmon quota more than tripled in 2007 from 850 to 2,800 fish for both the NTC and NND groups. In 2009 the NTC harvested 32 Chinook, 788 sockeye, 454 coho and 129 pink salmon. The NND caught 20 Chinook, 276 sockeye, and 56 coho salmon.

In 2003, another group from Ninilchik, the Ninilchik Emergency Services (NES), applied for and was granted an educational fishery. In 2009, the NES group did not report any harvest from their educational fishery permit.

The Anchor Point VFW applied for and was granted an educational fishery permit in 2007. They reported the following harvest from their 2009 fishing activities: 103 sockeye, 75 coho, and 6 pink salmon.

Finally, the Kasilof Historical Association applied for an educational permit beginning with the 2008 season. For 2009 they reported the following harvest: 4 Chinook, 61 sockeye, and 32 coho salmon.

NORTHERN DISTRICT EDUCATIONAL FISHERIES

In the Northern District of Upper Cook Inlet, 5 groups have received permits for educational fisheries, these being (1) the Knik Tribal Council, (2) Big Lake Cultural Outreach, (3) Eklutna Village, (4) Tyonek Village, and (5) Territorial Homestead Lodge, operated by Tim O'Brien (Appendix B16).

The Knik Tribal Council began an educational fishery in 1994 (Sweet et al. 2004). Their harvest in 2009 totaled 66 sockeye, 79 coho salmon, 1 pink, and 8 chum salmon, for a total of 154 fish. The peak harvest from this group of 823 fish occurred in 2003.

Big Lake Cultural Outreach group harvested 35 sockeye, 70 coho, 4 pink, and 1 chum salmon, for a total of 110 fish.

The Eklutna Village group was also issued an educational fisheries permit beginning in 1994. They have harvested an average of 320 fish per year from 1994 to 2006 with a peak harvest of 733 fish occurring in 2004. In 2009, this group reported harvesting 135 sockeye, 221 coho, 20 pink, and 23 chum salmon, for a total of 399 fish.

Tyonek Village reported an educational fishery harvest of 3 Chinook salmon in 2009.

Territorial Homestead Lodge also applied for and received an educational fishery permit beginning in 2007. This fishery is located near Moose Point in the Eastern Subdistrict of the Northern District. In 2008, the harvest from this fishery was 10 Chinook, 43 sockeye, 30 coho, 12 pink, and 4 chum salmon, for a total of 99 fish.

PERSONAL USE SALMON FISHERY

Operating under the Upper Cook Inlet Personal Use Salmon Fishery Management Plan (5 AAC 77.540), personal use fishing is allowed in limited areas in Cook Inlet. The management plan received substantial changes at the board meeting in January of 1996. In 1995, personal use fishing was allowed with set gillnets in most areas of Cook Inlet normally open to commercial set gillnet fishing. Most of this area was closed in 1996, but to compensate for the lost opportunity, dip net fisheries were expanded to allow for approximately the same level of harvest that had occurred with gillnets in 1995. Personal use fishing using gillnets is now only open near the Kasilof River in the waters of UCI normally closed to commercial set gillnet fishing. This area encompasses approximately 1 mile on either side of the Kasilof River terminus, extending out from shore for 1 mile. In addition, personal use fishing with dip nets is allowed at the terminus of the Kenai and Kasilof Rivers and in some years at Fish Creek. The personal use management plan was again amended at the 2002 BOF meeting, modifying how the dip net fishery at Fish Creek in Knik Arm was to be managed, as well as making time changes to both the Kenai and Kasilof personal use fisheries. The Fish Creek dip net fishery was continued in regulation, but per 5 AAC 77.540(d) opens only from July 10 through July 31 and only if the upper end of the escapement goal of 70,000 is projected to be exceeded. All salmon other than Chinook salmon may be retained. The Kasilof River gillnet fishery was also modified by the board, expanding the days and hours that the fishery was open. The fishery now opens on June 15 and takes place from 6:00 a.m. until 11:00 p.m. daily. Instead of being managed for a harvest goal of 10,000 to 20,000 fish, the fishery remains open until 11:00 p.m. on June 24, regardless of how many fish are harvested. The Kasilof River dip net personal use fishery occurs from June 25 through August 7, 24-hours per day. The board-amended management plan also changed how the Kenai River dip net fishery was

prosecuted. This fishery is open from July 10 through July 31, 7 days per week, but only from 6:00 a.m. to 11:00 p.m. daily. However, if ADF&G determines that the abundance of Kenai River late-run sockeye salmon is greater than 2 million fish, this fishery may be extended by emergency order to 24 hours per day.

In 2008, the BOF authorized a new UCI personal use fishery. Referred to as the Beluga River senior citizen personal use dip net fishery (5 AAC 77.540(g)), salmon may be taken by dip net only by persons 60 years of age or older (no proxy fishing is allowed). The fishery is open 24 hours per day from the Beluga River Bridge downstream to an ADF&G regulatory marker located approximately one mile below the bridge. The annual limit of the fishery is not to exceed 500 salmon, although no Chinook salmon may be retained. Permit holders are required to report their harvests weekly to ADF&G as specified in the permit.

A permit issued by ADF&G, along with a valid resident sport fishing license, or an exemption from licensing under AS 16.05.400, is required to participate in any of the personal use fisheries. The annual bag and possession limits are 25 salmon per head of household, with an additional 10 salmon for each household member. In the Kasilof River dip net fishery, Chinook salmon may not be retained and must be released immediately to the water unharmed. In the Kenai River dip net fishery, one Chinook salmon may be retained per household. There are no Chinook salmon harvest restrictions in the Kasilof River gillnet personal use fishery. Legal gear under the management plan are set gillnets and dip nets. A set gillnet cannot exceed 10 fathoms (60 feet) in length or 45 meshes in depth. Mesh size must be greater than 4 inches, but may not exceed 6 inches. Gillnets must be set at least 100 feet apart at all times. A legal dip net has been defined in regulation (5 AAC 39.105) as a bag-shaped net supported on all sides by a rigid frame. The maximum straight-line distance between any 2 points on the net frame, as measured through the net opening, may not exceed 5 feet. The depth of the bag must be at least one-half of the greatest straight-line distance, as measured through the net opening. No portion of the bag may be constructed of webbing that exceeds a stretched measurement of 4.5 inches; the frame must be attached to a single rigid handle and be operated by hand.

The 2009 personal use harvest data can be found in Appendix A16, while all UCI personal use salmon harvests since 1996 are summarized in Appendix B17.

KASILOF RIVER GILLNET

The personal use fishery using gillnets at the mouth of the Kasilof River opened on Monday, June 15, 2009 and closed at 11:00 p.m. on Sunday, June 24, 2009, as stipulated in the personal use management plan. The estimated harvest in 2009 in the gillnet fishery was 26,963 salmon, with 26,646 being sockeye salmon. This was the third largest harvest ever recorded in this fishery. The average annual sockeye salmon harvest since the BOF modified the management plan in 2002 has been 22,450 fish.

KASILOF RIVER DIP NET

The Kasilof River dip net fishery was open from June 25 through August 7, 2009 (44 days). The estimated harvest for the year was 75,957 salmon, with 73,035 (96%) being sockeye salmon. This was by far the largest harvest ever observed in the Kasilof River dip net fishery, exceeding the average annual sockeye salmon harvest from 2002 to 2008 of 47,942 fish by 52%. The number of days fished by participants also increased dramatically in 2009, with an estimate of

7,571 man days, which represented a 62% increase from the 2002 to 2008 average of 4,669 man days.

KENAI RIVER DIP NET

The personal use dip net fishery located at the mouth of the Kenai River opened by regulation on July 10. The fishery was open from 6:00 a.m. to 11:00 p.m. daily through July 31, 2009. The Upper Cook Inlet Personal Use Salmon Fishery Management Plan states that the personal use fishery may be expanded to 24-hours per day if ADF&G determines that the abundance of the Kenai River late-run sockeye salmon will be greater than 2 million fish. As described earlier in this report, data from the OTF program, combined with inseason harvest figures, indicated the 2009 late-run Kenai River sockeye salmon return would likely be less than 2 million fish, so the inriver minimum escapement goal was 650,000 fish and the Kenai River dip net fishery was not liberalized to 24 hours/day. In fact, in order to allow more sockeye salmon to enter the Kenai River, all commercial fisheries targeting Kenai River sockeye salmon were closed for the regular fishing periods on July 27 and 30 (Appendix A8). No actions were taken in the sport or personal use fisheries. Estimates of harvest in 2009 show that 349,350 salmon were taken in the Kenai River dip net fishery, with 339,993 (97%) being sockeye salmon. Similar to results in the Kasilof River dip net fishery, this harvest was the highest ever observed in the Kenai River dip net fishery. Angler days increased in 2009 by 46% over the 2002 to 2008 average. Based upon the number of sockeye salmon that were available to the dip net fishery in the Kenai River, the 2009 exploitation rate was estimated to be 35%.

FISH CREEK DIP NET FISHERY

For the first time since 2001, the Fish Creek personal use dip net fishery was opened. When it became apparent that the Fish Creek sockeye salmon escapement goal would be exceeded, Sport Fish, in compliance with the Upper Cook Inlet Personal Use Salmon Fishery Management Plan, released Emergency Order No. 2-RS-2-25-09. This announcement opened Fish Creek to personal use dip netting (for sockeye salmon only) starting at 6:00 a.m. on August 1, and continued through 11:00 p.m. on August 7. The estimated harvest in the Fish Creek personal use dip net fishery was 9,898 sockeye, 10 Chinook, 53 coho, 66 pink, and 33 chum salmon (Appendix B17).

BELUGA RIVER SENIOR CITIZEN DIP NET FISHERY

The estimated harvest from the second year of the Beluga River senior citizen dip net fishery shows that 10 permit holders participated in the fishery, with a total harvest of 225 salmon (140 sockeye, 78 coho, and 7 pink salmon).

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FIGURES

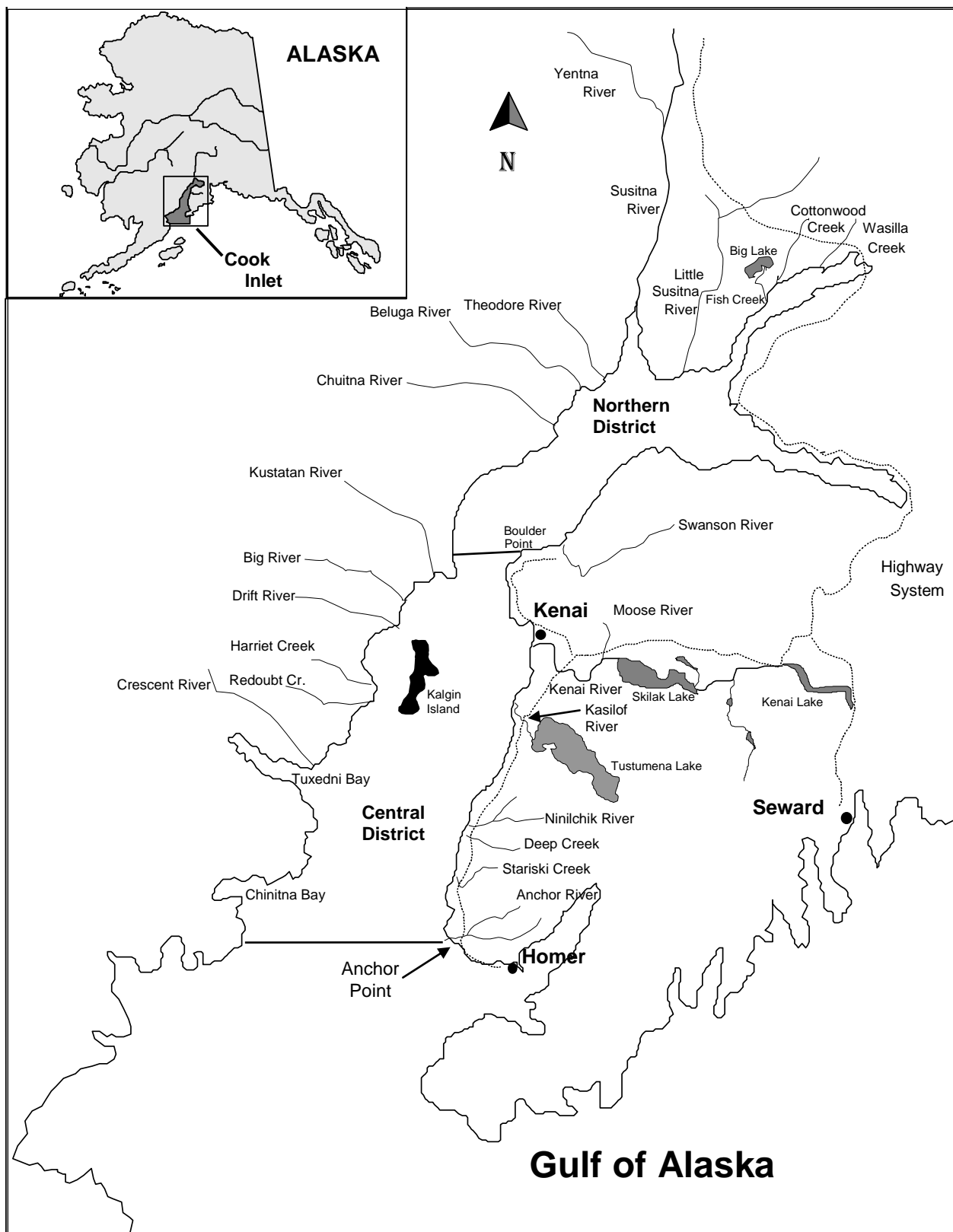


Figure 1.—Major tributaries of the Cook Inlet basin.

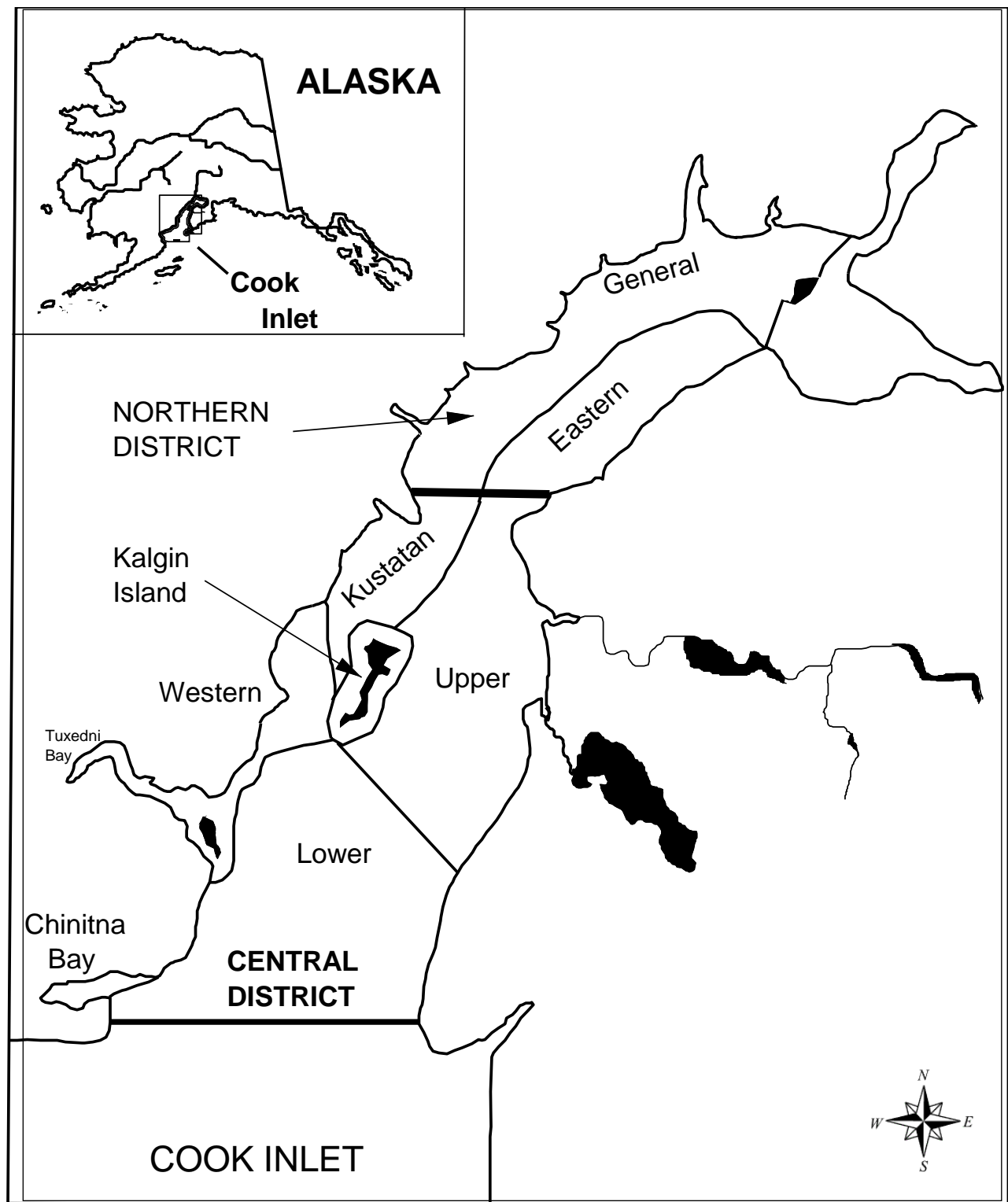


Figure 2.—Upper Cook Inlet commercial fisheries Subdistrict fishing boundaries.

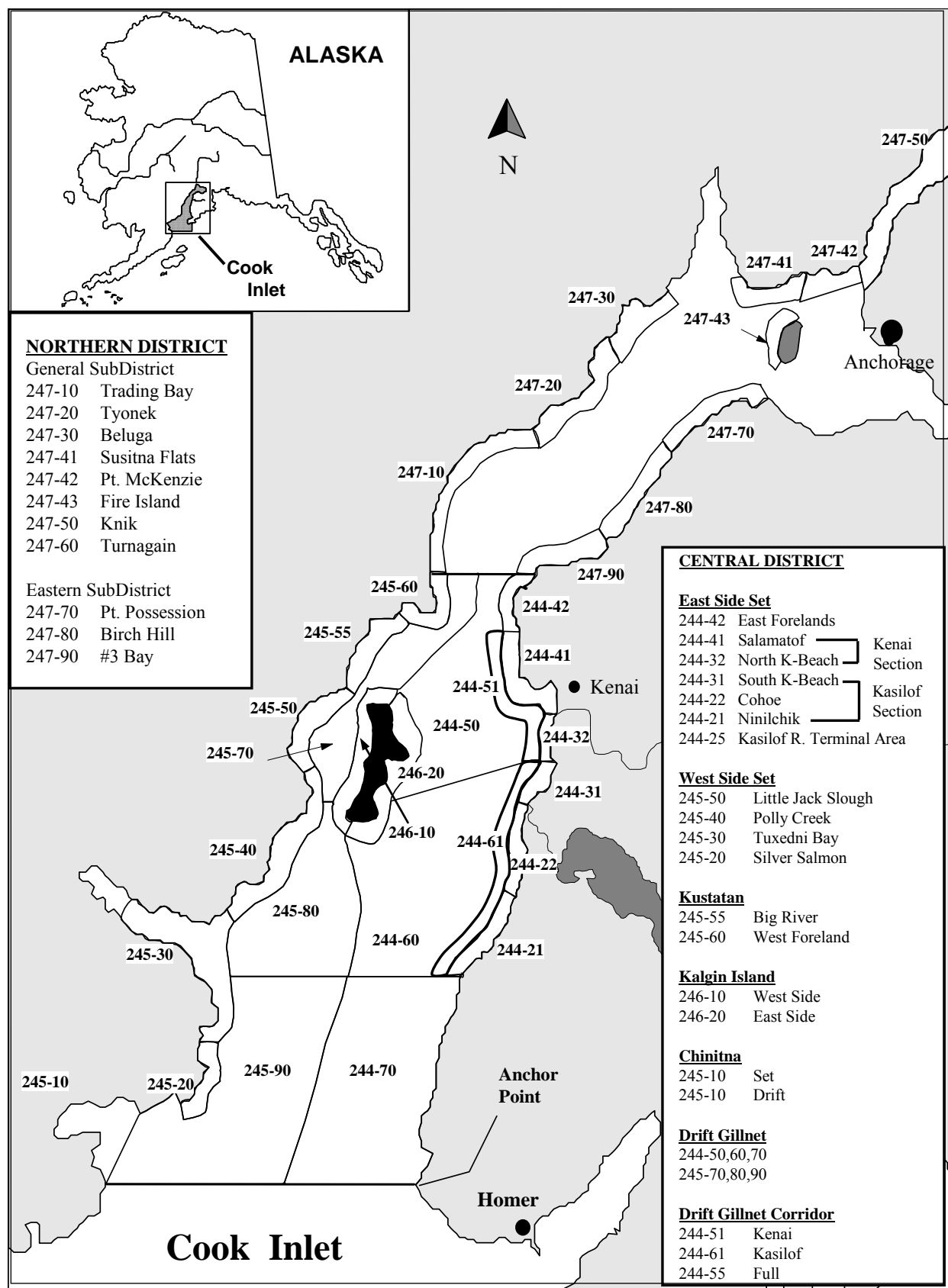


Figure 3.—Upper Cook Inlet commercial fisheries statistical areas.

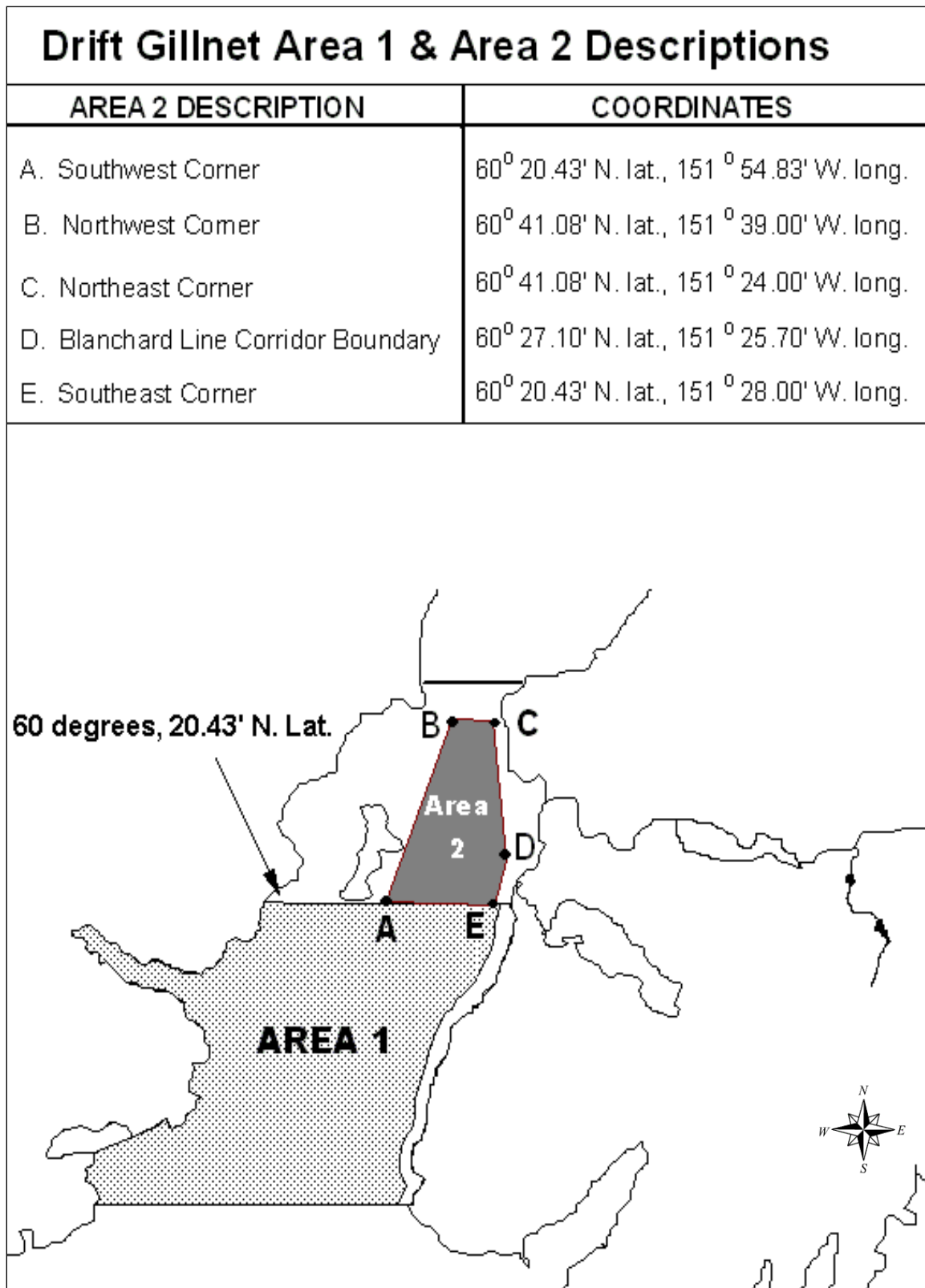
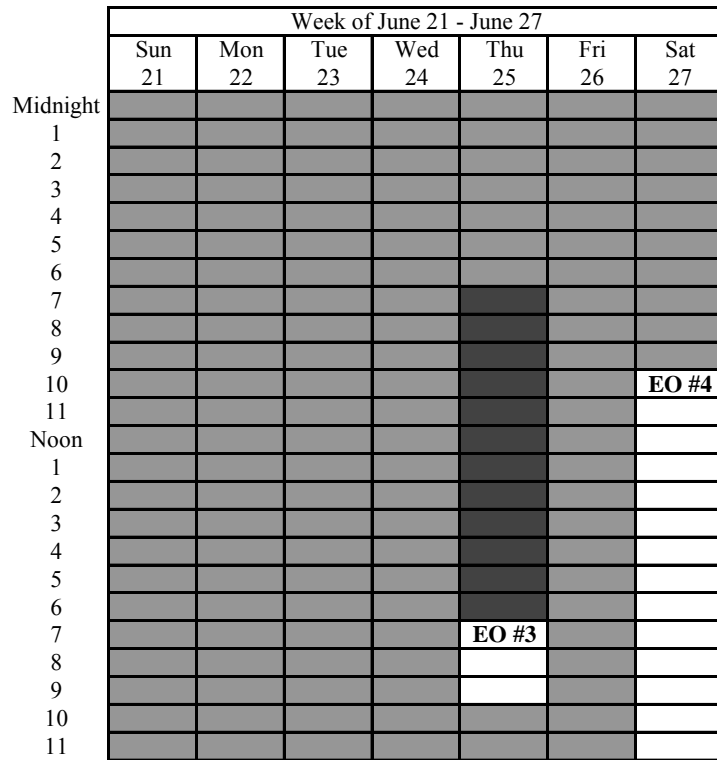
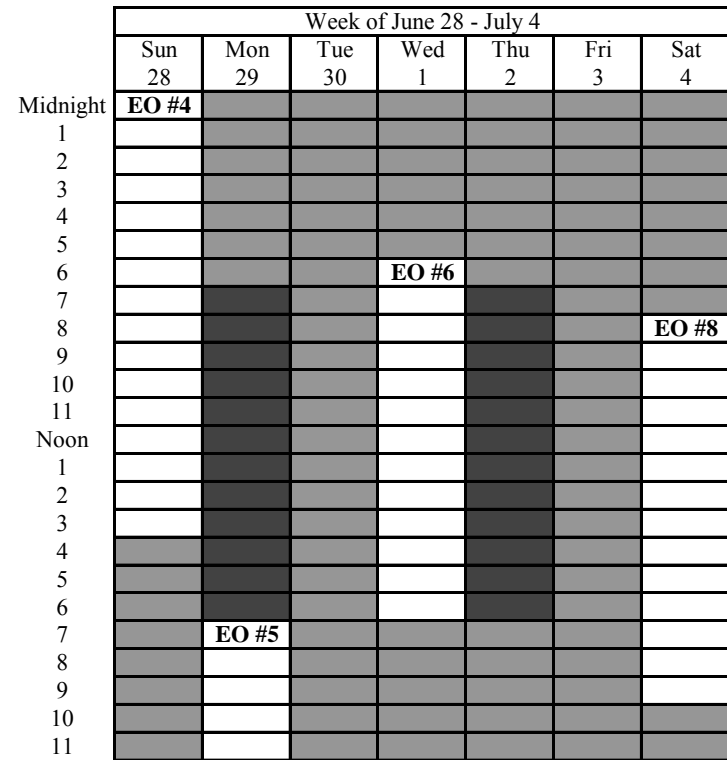


Figure 4.—Drift gillnet boundaries for fishing areas 1 and 2.



EO #3 Kasilof Section from 7pm to 10 pm on Jun 25
 EO #4 Kasilof Section from 10am on June 27 to 4pm on June 28

Regular Fishing Periods
Additional Fishing Time
No Commercial Fishing



EO #4 Kasilof Section from 10am on June 27 to 4pm on June 28
 EO #5 Kasilof Section from 7pm until 12 midnight on June 30
 EO #6 Kasilof Section from 6am until 7pm on July 1
 EO #8 Kasilof Section from 8am until 10pm on July 4

Regular Fishing Periods
Additional Fishing Time
No Commercial Fishing

Figure 5.—Hours fished in the Upper Subdistrict set gillnet fishery, 2009.

Week of July 5 - 11							
	Sun 5	Mon 6	Tue 7	Wed 8	Thu 9	Fri 10	Sat 11
Midnight							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							EO #11
11							
Noon			EO #9				
1							
2							
3							
4							
5							
6							
7					EO #10		
8							EO #12
9							
10							
11							

- EO #9 Kasilof Section from 12 noon Jul 7 to 1pm on Jul 8
 EO #10 Upper Subdistrict 7 to 10 pm on Jul 9
 EO #11 Kasilof Section 1/2 mile 10am to 8pm on Jul 11
 EO #12 Kasilof Section 1/2 mile 8pm to 10 pm on Jul 11

Regular Fishing Periods
Additional Fishing Time
No Commercial Fishing

Week of July 12 - 18							
	Sun 12	Mon 13	Tue 14	Wed 15	Thu 16	Fri 17	Sat 18
Midnight							
1							
2							
3							
4							
5				EO #15			
6							
7	EO #13						
8							
9							
10						EO #17	
11							
Noon							
1							
2							
3							
4							
5							
6							
7		EO #14					
8							
9							
10							
11							

- EO #13 Kasilof Section 1/2 mile from 7am to 10pm on Jul 12
 EO #14 Upper Subdistrict 7pm to 11pm on Jul 13
 EO #15 Kasilof Section 1/2 mile from 5am to 6pm on Jul 15
 EO #17 Kasilof Section 1/2 mile from 10am on Jul 17 to 2am on Jul 18

Regular Fishing Periods
Additional Fishing Time
No Commercial Fishing

Figure 5.–Page 2 of 4.

Week of July 19 - 25							
	Sun 19	Mon 20	Tue 21	Wed 22	Thu 23	Fri 24	Sat 25
Midnight							
1							
2							
3							
4							
5							
6							
7	EO #18						
8							
9							
10			EO #21				
11							
Noon				EO #22			
1							
2							
3							
4							
5							
6							
7					EO #23		
8							
9							
10							
11							

EO #18 Kasilof Section 1/2 mile from 7 am to 5 pm on Jul 19
 EO #21 Kasilof Section 1/2 mile 10am on Jul 21 until 12noon on Jul 22
 EO #22 Kasilof Section 1/2 mile from 12noon until 7pm on Jul 22
 EO #23 Upper Subdistrict fom 7pm to 9pm on Jul 23

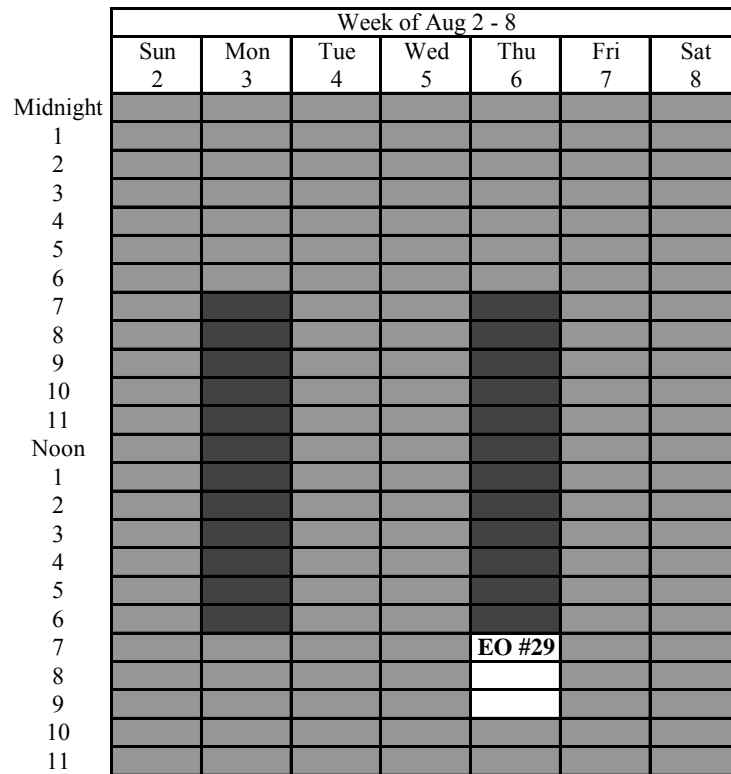
Regular Fishing Periods
Additional Fishing Time
No Commercial Fishing

Week of July 26 - Aug 1							
	Sun 26	Mon 27	Tue 28	Wed 29	Thu 30	Fri 31	Sat 1
Midnight							
1							
2							
3							
4							
5							
6							
7							EO #27
8							
9							
10		EO #25					
11							
Noon							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

EO#25 Kasilof Section 1/2 mile from 10am to 9pm on Jul 27
 EO #27 Upper Subdistrict from 7am to 7pm on Aug 1

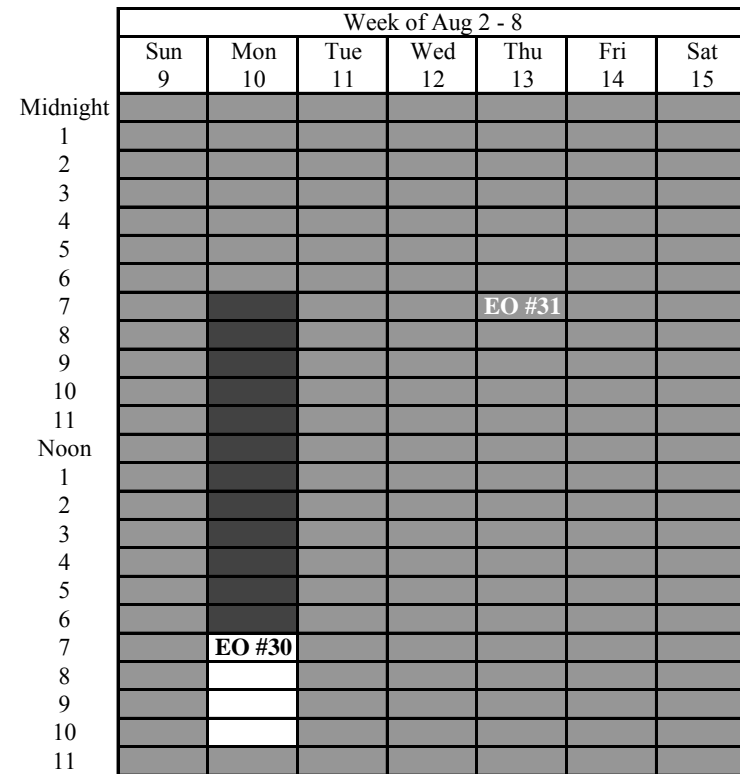
Regular Fishing Periods
Additional Fishing Time
No Commercial Fishing

Figure 5.—Page 3 of 4.



EO #29 Upper Subdistrict from 7pm to 10pm on Aug 6

Regular Fishing Periods
Additional Fishing Time
No Commercial Fishing



EO #30 Upper Subdistrict from 7pm to 11pm on Aug 10

EO #31 Closed season based on the 1% rule

Regular Fishing Periods
Additional Fishing Time
No Commercial Fishing

Figure 5.—Page 4 of 4.

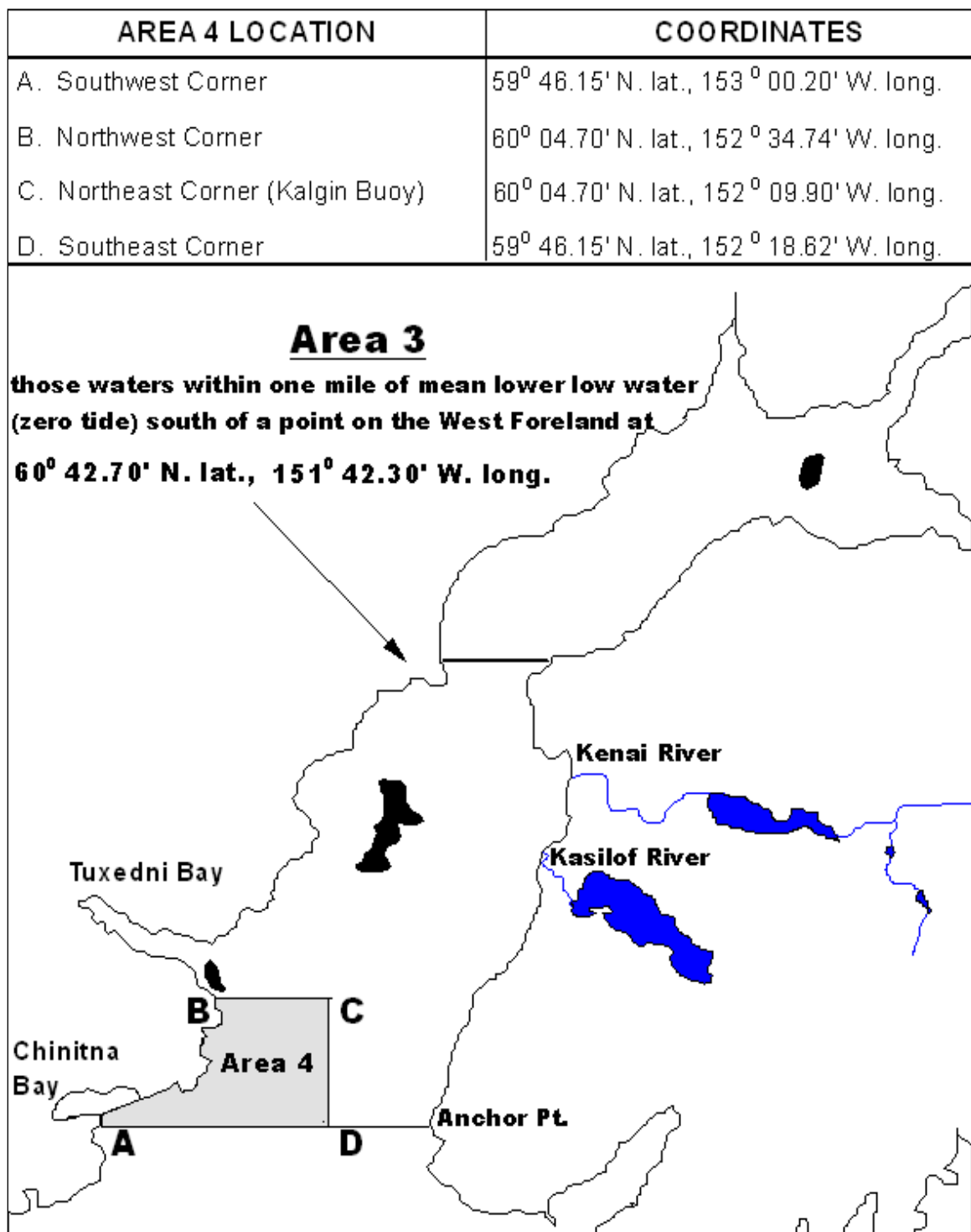


Figure 6.—Map of drift gillnet areas 3 and 4.

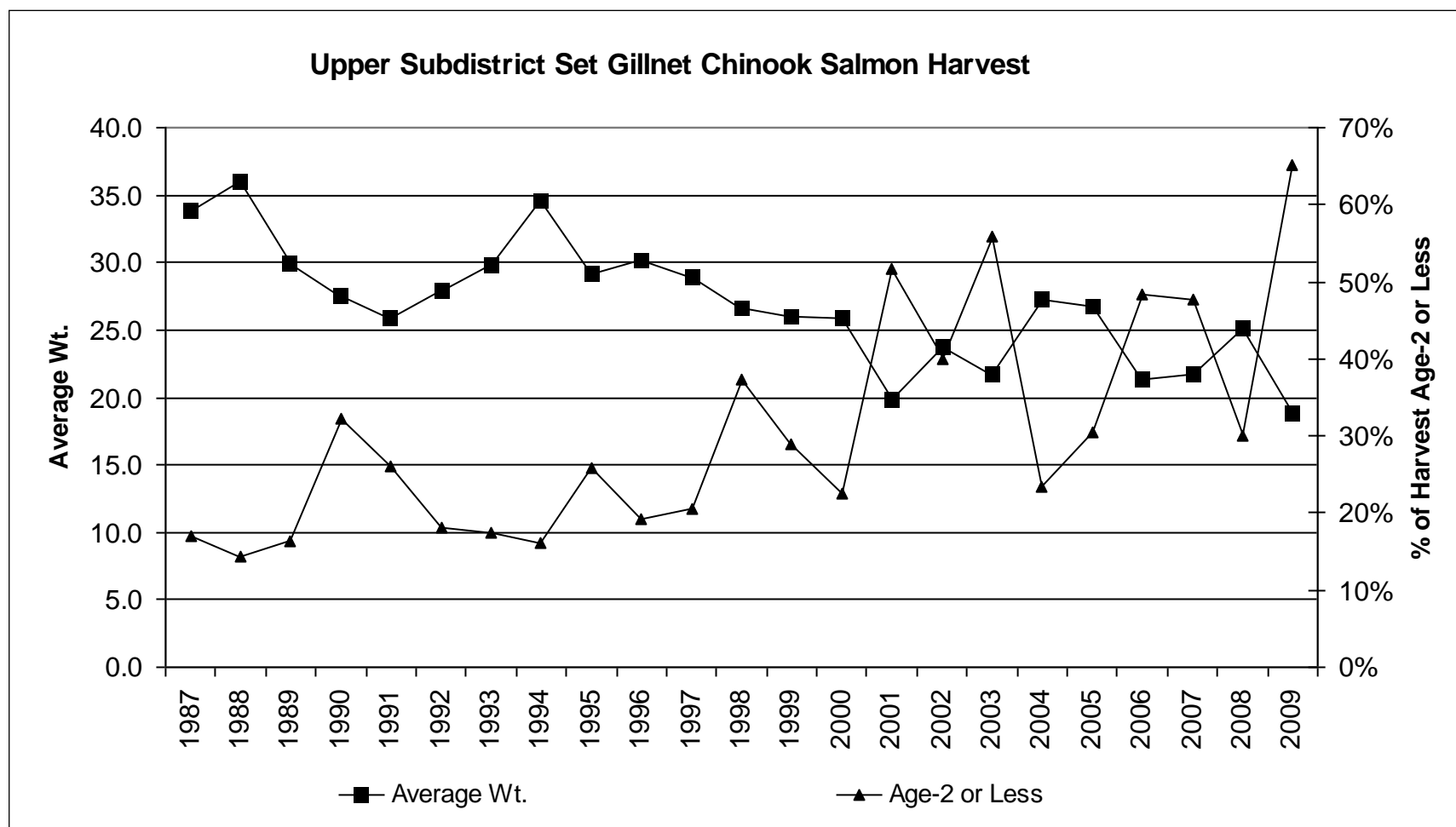


Figure 7.—Chinook salmon average weight (all fish) and % of the harvest comprised of age-2 or less fish in the Upper Subdistrict set gillnet commercial fishery, 1987–2009.

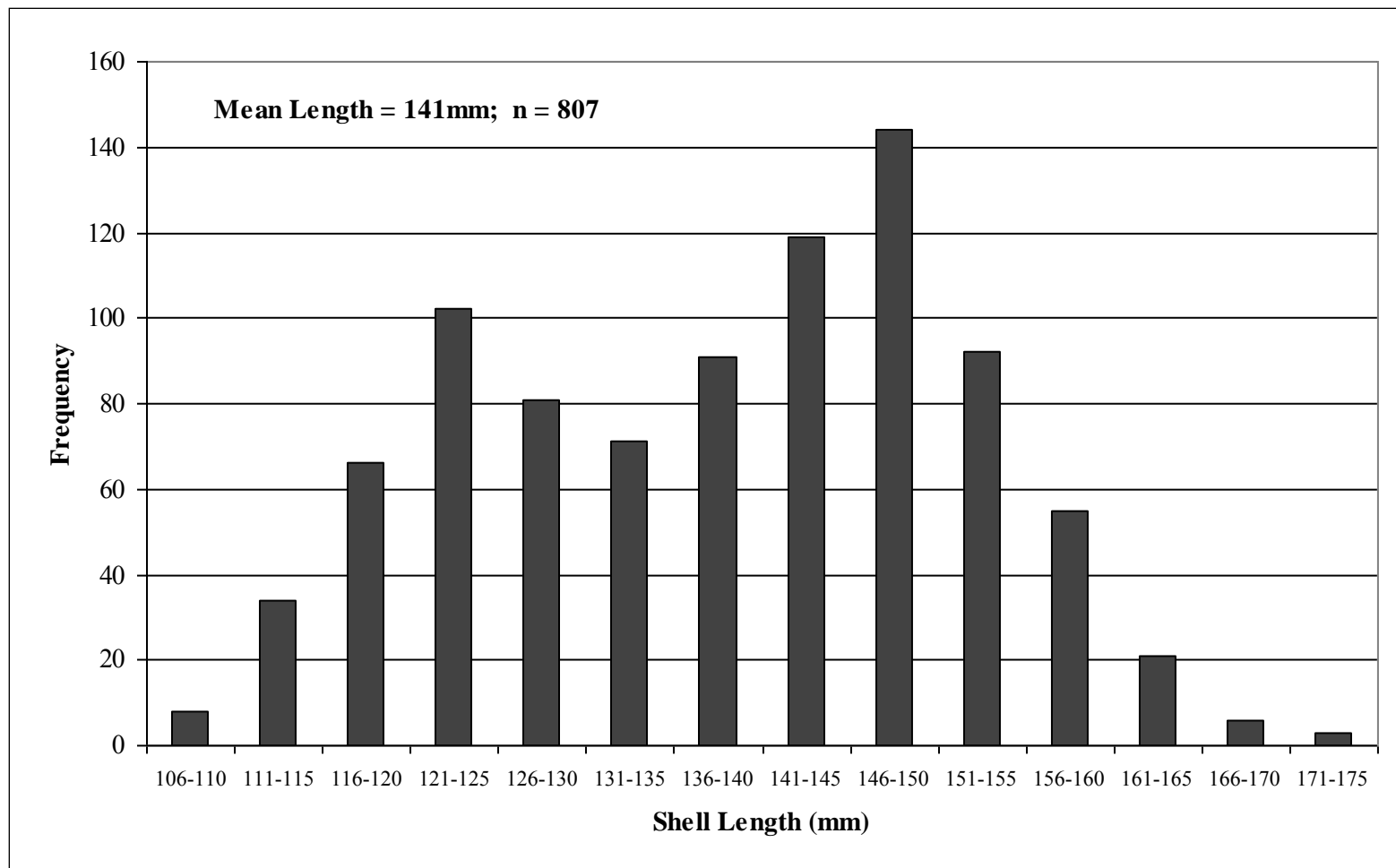


Figure 8.—Length frequency of razor clam shells sampled from the 2009 Polly Creek commercial razor clam fishery.

APPENDIX A: 2009 SEASON DATA

Appendix A1.—Offshore test fish sockeye salmon catch results and environmental data, 2009.

Date	No. of Station	Fishing Time		Cum Catch		Cum Index		Mean Length (mm)	Water Temp (c)	Air Temp (c)	Salinity (ppm)	Beginning Wind		Ending Wind	
		(min)	Catch	Catch	Index	Index	Index					Vel	Dir	Vel	Dir
1 Jul	6	230.0	86	86	65	65	65	556	9.3	10.2	32.4	3	S	9	S
2 Jul	6	230.5	13	99	9	74	74	548	9.2	10.3	31.5	15	S	10	W
3 Jul	6	233.5	107	206	81	155	155	552	10.0	10.9	30.4	5	S	8	S
4 Jul	6	220.5	35	241	28	183	183	549	9.6	10.8	31.5	7	S	3	E
5 Jul	6	247.0	196	437	135	318	318	560	9.9	13.5	31.7	1.0	SE	3	SE
6 Jul	6	228.5	85	522	66	384	384	560	9.4	10.4	32.1	10	SE	3	SE
7 Jul	6	230.0	153	675	113	497	497	553	9.5	12.8	32.6	2	SW	3	SW
8 Jul	6	256.5	338	1,013	204	702	702	556	9.6	11.5	32.1	6	S	6	SW
9 Jul	6	229.5	68	1,081	49	751	751	572	10.2	11.5	31.6	13	S	4	S
10 Jul	6	257.5	318	1,399	185	936	936	568	9.8	11.6	32.4	4	S	7	S
11 Jul	6	223.5	55	1,454	41	977	977	571	10.0	11.7	31.8	5	S	2	S
12 Jul	6	235.5	148	1,602	105	1,082	1,082	573	10.1	10.3	31.8	4	SW	2	S
13 Jul	2 ^a	109.5	371	1,973	207	1,289	1,289	572	9.4	10.6	32.6	12	SW	15	S
14 Jul	6	280.5	472	2,445	277	1,566	1,566	557	10.8	12.3	30.9	8	S	7	S
15 Jul	6	228.5	98	2,543	72	1,638	1,638	566	11.5	14.2	30.8	1	S	2	S
16 Jul	5 ^a	198.5	131	2,674	91	1,729	1,729	571	11.1	12.6	30.8	1	SW	8	S
17 Jul	6	238.5	216	2,890	142	1,871	1,871	568	12.0	12.8	30.6	4	SW	9	SW
18 Jul	6	235.0	101	2,991	70	1,941	1,941	570	11.5	12.4	30.0	5	S	6	NE
19 Jul	3 ^a	119.5	50	3,041	37	1,978	1,978	564	9.5	12.4	32.8	15	NW	17	NW
20 Jul	6	227.5	82	3,123	61	2,039	2,039	568	10.2	13.1	31.9	9	NW	3	N
21 Jul	0 ^a	0.0	92	3,215	66	2,106	na	na	na	na	na	na	na	na	na
22 Jul	6	240.5	99	3,314	71	2,177	2,177	568	9.2	11.9	32.9	2	E	1	NE
23 Jul	6	255.0	159	3,473	106	2,283	2,283	543	9.5	11.3	32.4	13	NE	10	NE
24 Jul	6	238.5	85	3,558	62	2,345	2,345	562	9.5	11.9	32.5	10.0	NE	8	N
25 Jul	6	210.0	52	3,610	47	2,393	2,393	569	9.8	11.7	32.2	2	N	6	N
26 Jul	0 ^a	0.0	34	3,644	29	2,422	na	na	na	na	na	na	na	na	na
27 Jul	6	226.5	14	3,658	11	2,433	2,433	553	9.6	12.5	32.0	8	N	4	N
28 Jul	6	231.0	29	3,687	23	2,455	2,455	577	9.4	12.3	32.6	7	SW	3	SW
29 Jul	4 ^a	74.5	19	3,706	14	2,469	2,469	567	9.2	11.4	32.9	6	S	15	SW
30 Jul	6	228.5	21	3,727	16	2,485	2,485	570	10.7	11.6	30.8	4	SW	9	NE

^a All stations not fished due to inclement weather; the data for missed stations was interpolated.

Appendix A2.—Upper Cook Inlet sockeye salmon enumeration by watershed and date, 2009.

Date	Kenai River		Kasilof River		Fish Creek		Packers Creek		Chelatna Lake		Judd Lake		Larson Lake	
	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum
15 Jun		0	2,304	2,304		0								
16 Jun			2,202	4,506										
17 Jun			964	5,470										
18 Jun			939	6,409										
19 Jun			1,971	8,380										
20 Jun			6,126	14,506										
21 Jun			3,435	17,941										
22 Jun			1,511	19,452										
23 Jun			2,195	21,647										
24 Jun			3,349	24,996										
25 Jun			5,961	30,957										
26 Jun			3,398	34,355										
27 Jun			6,414	40,769									4	4
28 Jun			1,541	42,310									0	4
29 Jun			3,257	45,567									0	4
30 Jun			3,728	49,295									0	4
1 Jul	2,645	2,645	9,958	59,253									0	4
2 Jul	3,313	5,958	4,257	63,510									0	4
3 Jul	3,567	9,525	4,644	68,154									0	4
4 Jul	5,304	14,829	9,638	77,792									0	4
5 Jul	4,750	19,579	2,693	80,485									2	6
6 Jul	4,436	24,015	8,006	88,491									0	6
7 Jul	6,118	30,133	4,582	93,073									0	6
8 Jul	4,607	34,740	1,902	94,975									0	6
9 Jul	5,944	40,684	5,782	100,757									13	19
10 Jul	5,192	45,876	4,116	104,873									6	25

-continued-

Appendix A2.–Page 2 of 4.

Date	Kenai River		Kasilof River		Fish Creek		Packers Creek		Chelatna Lake		Judd Lake		Larson Lake	
	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum
11 Jul	7,836	53,712	12,860	117,733									0	25
12 Jul	19,377	73,089	4,378	122,111									0	25
13 Jul	11,989	85,078	4,883	126,994									0	25
14 Jul	20,325	105,403	11,116	138,110									17	42
15 Jul	50,442	155,845	20,909	159,019	873	873							244	286
16 Jul	56,461	212,306	7,744	166,763	1,621	2,494							1	287
17 Jul	52,395	264,701	6,662	173,425	1,073	3,567							0	287
18 Jul	36,327	301,028	5,202	178,627	1,734	5,301	554	554					87	374
19 Jul	26,151	327,179	10,417	189,044	1,373	6,674	352	906	23	23			772	1,146
20 Jul	45,211	372,390	6,129	195,173	4,412	11,086	234	1,140	12	35			1,917	3,063
21 Jul	28,062	400,452	3,008	198,181	2,529	13,615	178	1,318	591	626			1,879	4,942
22 Jul	8,889	409,341	1,758	199,939	3,126	16,741	159	1,477	1,342	1,968	2	2	3,123	8,065
23 Jul	11,201	420,542	2,052	201,991	2,311	19,052	356	1,833	1,536	3,504	0	2	2,157	10,222
24 Jul	16,007	436,549	2,110	204,101	2,442	21,494	436	2,269	821	4,325	17	19	3,679	13,901
25 Jul	8,064	444,613	4,939	209,040	314	21,808	254	2,523	837	5,162	1,016	1,035	2,754	16,655
26 Jul	10,864	455,477	10,729	219,769	3,279	25,087	158	2,681	869	6,031	1,030	2,065	2,913	19,568
27 Jul	36,476	491,953	10,790	230,559	1,931	27,018	102	2,783	744	6,775	2,192	4,257	3,686	23,254
28 Jul	40,078	532,031	3,708	234,267	4,426	31,444	33	2,816	833	7,608	4,209	8,466	1,591	24,845
29 Jul	32,129	564,160	5,813	240,080	6,041	37,485	491	3,307	948	8,556	4,196	12,662	1,626	26,471
30 Jul	26,747	590,907	6,686	246,766	13,682	51,167	354	3,661	920	9,476	2,224	14,886	892	27,363
31 Jul	27,370	618,277	4,324	251,090	10,000	61,167	614	4,275	576	10,052	2,238	17,124	618	27,981
1 Aug	17,878	636,155	5,105	256,195	7,345	68,512	832	5,107	414	10,466	2,135	19,259	636	28,617
2 Aug	20,429	656,584	4,703	260,898	2,531	71,043	870	5,977	578	11,044	3,233	22,492	128	28,745

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Date	Kenai River		Kasilof River		Fish Creek		Packers Creek		Chelatna Lake		Judd Lake		Larson Lake	
	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum
3 Aug	22,400	678,984	5,003	265,901	35	71,078	387	6,364	791	11,835	583	23,075	74	28,819
4 Aug	13,704	692,688	5,265	271,166	0	71,078	200	6,564	525	12,360	1,426	24,501	1,421	30,240
5 Aug	11,978	704,666	5,143	276,309	23	71,101	932	7,496	322	12,682	679	25,180	829	31,069
6 Aug	7,141	711,807	4,034	280,343	508	71,609	355	7,851	239	12,921	571	25,751	604	31,673
7 Aug	5,015	716,822	2,953	283,296	2,351	73,960	324	8,175	325	13,246	900	26,651	880	32,553
8 Aug	3,204	720,026	3,313	286,609	3,060	77,020	140	8,315	455	13,701	16	26,667	1,739	34,292
9 Aug	4,586	724,612	3,106	289,715	3,518	80,538	174	8,489	829	14,530	2,252	28,919	1,776	36,068
10 Aug	6,992	731,604	2,113	291,828	857	81,395	1,808	10,297	624	15,154	1,201	30,120	562	36,630
11 Aug	3,650	735,254	1,333	293,161	661	82,056	976	11,273	697	15,851	1,554	31,674	507	37,137
12 Aug	4,256	739,510	2,064	295,225	501	82,557	381	11,654	391	16,242	2,361	34,035	1,627	38,764
13 Aug	5,660	745,170	1,900	297,125	56	82,613	642	12,296	219	16,461	2,269	36,304	44	38,808
14 Aug					139	82,752	424	12,720	211	16,672	1,917	38,221	1,304	40,112
15 Aug					229	82,981	765	13,485	254	16,926	1,385	39,606	52	40,164
16 Aug					145	83,126	123	13,608	240	17,166	851	40,457	40	40,204
17 Aug					52	83,178	35	13,643	0	17,166	424	40,881	22	40,226
18 Aug					37	83,215	1,424	15,067	145	17,311	572	41,453	620	40,846
19 Aug					41	83,256	347	15,414	55	17,366	605	42,058	296	41,142
20 Aug					16	83,272	68	15,482	142	17,508	221	42,279	64	41,206
21 Aug					37	83,309	216	15,698	68	17,576	180	42,459	75	41,281
22 Aug					29	83,338	234	15,932	64	17,640	100	42,559	127	41,408
23 Aug					6	83,344	148	16,080	47	17,687	51	42,610	23	41,431
24 Aug					39	83,383	134	16,214	40	17,727	41	42,651	112	41,543
25 Aug					0	83,383	82	16,296	16	17,743	71	42,722	49	41,592
26 Aug					2	83,385	53	16,349	28	17,771	51	42,773	27	41,619
27 Aug					47	83,432	124	16,473	16	17,787	91	42,864	77	41,696
28 Aug					0	83,432			15	17,802	37	42,901	26	41,722

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Date	Kenai River		Kasilof River		Fish Creek		Packers Creek		Chelatna Lake		Judd Lake		Larson Lake	
	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum
29 Aug					28	83,460			25	17,827	99	43,000	51	41,773
30 Aug					0	83,460			-1	17,826	41	43,041	47	41,820
31 Aug					2	83,462			14	17,840	35	43,076	37	41,857
1 Sep					0	83,462			4	17,844	15	43,091	4	41,861
2 Sep					0	83,462			9	17,853	3	43,094	7	41,868
3 Sep					2	83,464			6	17,859	-22	43,072	20	41,888
4 Sep					0	83,464			6	17,865	-14	43,058	11	41,899
5 Sep					6	83,470					-11	43,047	2	41,901
6 Sep					0	83,470					106	43,153	17	41,918
7 Sep					0	83,470							11	41,929
8 Sep					1	83,471								
9 Sep					1	83,472								
10 Sep					1	83,473								
11 Sep					2	83,475								
12 Sep					1	83,476								
13 Sep					1	83,477								

Note: Days without data indicate days when the project was not operational.

Appendix A3.–Commercial Chinook salmon catch by area and date, Upper Cook Inlet, 2009.

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Upper Subdistrict Set Gillnet														
	244-21		244-22		244-31		244-32		244-41		244-42		TOTAL	
	Ninilchik		Cohoe		South K.Beach		N. Kbeach		Salamatof		E. Forelands			
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
25 June	16	16	28	28	18	18							62	62
27 June	16	32	42	70	11	29							69	131
28 June	27	59	24	94	13	42							64	195
29 June	49	108	55	149	11	53							115	310
1 July	24	132	41	190	40	93							105	415
2 July	30	162	50	240	37	130							117	532
4 July	26	188	49	289	26	156							101	633
6 July	48	236	84	373	53	209							185	818
7 July	20	256	51	424	34	243							105	923
8 July	44	300	58	482	79	322							181	1,104
9 July	49	349	111	593	117	439	68	68	304	304	45	45	694	1,798
11 July	30	379	69	662	55	494							154	1,952
12 July	42	421	79	741	35	529							156	2,108
13 July	44	465	153	894	70	599	73	141	204	508	11	56	555	2,663

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Upper Subdistrict Set Gillnet														
	244-21		244-22		244-31		244-32		244-41		244-42			
	Ninilchik		Cohoe		South K.Beach		North K.Beach		Salamatof		E. Forelands		TOTAL	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
15 July	35	500	53	947	74	673							200	2,863
16 July	47	547	65	1,012	98	771	39	180	76	584	6	62	293	3,156
17 July	49	596	67	1,079	30	801							146	3,302
18 July	4	600	15	1,094	11	812							30	3,332
19 July	23	623	68	1,162	26	838							117	3,449
20 July	15	638	69	1,231	84	922	59	239	108	692	5	67	340	3,789
21 July	88	726	64	1,295	41	963							222	4,011
22 July	36	762	101	1,396	68	1,031							176	4,187
23 July	50	812	88	1,484	100	1,131	85	324	165	857	14	81	502	4,689
27 July	17	829	56	1,540	72	1,203							145	4,834
1 Aug	10	839	21	1,561	83	1,286	87	411	61	918	1	82	263	5,097
3 Aug	15	854	16	1,577	37	1,323	90	501	62	980		82	220	5,317
6 Aug	9	863	8	1,585	21	1,344	32	533	56	1,036	5	87	131	5,448
10 Aug	2	865	6	1,591	35	1,379	15	548	81	1,117	1	88	140	5,588

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Central District - West Side Set Gillnet																					
		245-10		245-20		245-30		245-40		245-50		245-55		245-60		246-10		246-20			
		Chinitna Bay		Silv. Salmon		Tuxedni Bay		Polly Cr.		L. J. Slough		Big River		W. Forelands		Kalgin - West		Kalgin - East		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	
1 Jun												56	56			23	23			79	79
3 Jun												22	78			88	111			110	189
5 Jun												6	84			36	147			42	231
8 Jun													84			14	161			14	245
10 Jun												8	92			48	209			56	301
12 Jun												4	96			62	271			66	367
15 Jun												4	100			25	296			29	396
17 Jun												5	105			22	318			27	423
18 Jun						17	17													17	440
19 Jun												2	107			8	326			10	450
22 Jun						7	24									2	328			9	459
24 Jun																5	333			5	464
25 Jun						9	33									4	337			13	477
29 Jun						30	63									5	342	1	1	36	513
2 Jul						51	114										342			51	564
3 Jul						1	115													1	565

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Central District - West Side Set Gillnet																					
		245-10		245-20		245-30		245-40		245-50		245-55		245-60		246-10		246-20			
		Chinitna Bay		Silv. Salmon		Tuxedni Bay		Polly Cr.		L. J. Slough		Big River		W. Forelands		Kalgin - West		Kalgin - East		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	
4 Jul					35	150														35	600
5 Jul					3	153														3	603
6 Jul					8	161										4	346			12	615
7 Jul					3	164														3	618
9 Jul					10	174										2	348			12	630
10 Jul					2	176														2	632
11 Jul					9	185														9	641
12 Jul					2	187														2	643
13 Jul					5	192										1	349			6	649
14 Jul					1	193														1	650
16 Jul					9	202														9	659
17 Jul			1	1		202														1	660
18 Jul					3	205														3	663
19 Jul					1	206														1	664
23 Jul					1	207										2	351			3	667
28 Jul					2	209														2	669
30 Jul					1	210														1	670
1 Aug					2	212														2	672
3 Aug					1	213														1	673

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Northern District Set Gillnet																				
247-10			247-20		247-30		247-41		247-42		247-43		247-70		247-80		247-90			
	Trading Bay		Tyonek		Beluga		Su. Flats		Pt. McKenzie		Fire Island		Pt. Possession		Birch Hill		#3 Bay		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum
25 May			28	28	14	14	6	6	3	3	1	1	24	24	3	3			79	79
1 Jun	111	111	147	175	36	50	12	18	24	27	15	16	68	92	32	35	10	10	455	534
8 Jun	148	259	181	356	94	144	64	82	101	128	56	72	77	169	3	38	8	18	732	1,266
25 Jun		259	119	475	47	191	8	90	13	141			14	183	0	38	0	18	201	1,467
29 Jun		259	109	584	6	197		90		141			7	190	1	39	1	19	124	1,591
2 Jul		259	10	594		197		90		141			3	193			0	19	13	1,604
6 Jul		259	3	597	3	200		90		141			1	194			0	19	7	1,611
9 Jul		259	3	600				90	0	141			0	194			0	19	3	1,614
13 Jul		259	1	601			2	92	1	142			0	194			1	20	5	1,619
16 Jul	0	259	3	604									0	194			1	21	4	1,623
27 Jul	0	259											1	195			0	21	1	1,624
30 Jul		259											1	196			0	21	1	1,625
3 Aug		259											0	196			3	24	3	1,628
6 Aug	2	261											1	197					3	1,631

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Central District Drift Gillnet									
Date	Deliveries	244-61 Kasilof Section		245-10 Chinitna Bay		244-60 District Wide		Total	
		Day	Cum	Day	Cum	Day	Cum	Day	Cum
22 Jun	72					14	14	14	14
25 Jun	122					26	40	26	40
27 Jun	30	2	2				40	2	42
28 Jun	4	3	5				40	3	45
29 Jun	200		5			38	78	38	83
1 Jul	38	2	7				78	2	85
2 Jul	248		7			241	319	241	326
4 Jul	48	3	10				319	3	329
6 Jul	302		10			107	426	107	436
7 Jul	18	2	12				426	2	438
8 Jul	16	2	14				426	2	440
9 Jul	337					160	586	160	600
13 Jul	337					81	667	81	681
16 Jul	355					63	730	63	744
20 Jul	377					41	771	41	785
23 Jul	353					42	813	42	827
1 Aug	209					14	827	14	841
3 Aug	202					4	831	4	845
6 Aug	134					3	834	3	848
10 Aug	63					6	840	6	854
13 Aug	19					1	841	1	855
17 Aug	25					2	843	2	857
20 Aug	16					1	844	1	858
2 Sep	4			1	1			1	859

Note: Days without data indicate days when there was no harvest.

Appendix A4.–Commercial sockeye salmon catch by area and date, Upper Cook Inlet, 2009.

Upper Subdistrict Set Gillnet														
	244-21		244-22		244-31		244-32		244-41		244-42			
	Ninilchik		Cohoe		South K.Beach		N. Kbeach		Salamatof		E. Forelands		TOTAL	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
25 Jun	31,270	31,270	14,591	14,591	10,380	10,380							56,241	56,241
27 Jun	19,607	50,877	11,430	26,021	11,897	22,277							42,934	99,175
28 Jun	12,062	62,939	4,449	30,470	3,996	26,273							20,507	119,682
29 Jun	26,910	89,849	10,774	41,244	8,129	34,402							45,813	165,495
1 Jul	17,312	107,161	8,813	50,057	15,688	50,090							41,813	207,308
2 Jul	15,272	122,433	7,801	57,858	9,130	59,220							32,203	239,511
4 Jul	10,591	133,024	4,946	62,804	7,903	67,123							23,440	262,951
6 Jul	8,762	141,786	8,662	71,466	5,902	73,025							23,326	286,277
7 Jul	6,090	147,876	4,250	75,716	3,506	76,531							13,846	300,123
8 Jul	7,303	155,179	2,823	78,539	4,260	80,791							14,386	314,509
9 Jul	10,955	166,134	17,987	96,526	8,295	89,086	4,436	4,436	7,205	7,205	2,817	2,817	51,695	366,204
11 Jul	10,951	177,085	13,149	109,675	9,926	99,012							34,026	400,230
12 Jul	8,615	185,700	4,868	114,543	5,548	104,560							19,031	419,261
13 Jul	12,016	197,716	15,922	130,465	17,977	122,537	26,072	30,508	50,999	58,204	8,003	10,820	130,989	550,250

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Upper Subdistrict Set Gillnet														
	244-21		244-22		244-31		244-32		244-41		244-42			
	Ninilchik		Cohoe		South K.Beach		North K.Beach		Salamatof		E. Forelands		TOTAL	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
15 Jul	5,870	203,586	5,628	136,093	12,630	135,167							24,128	574,378
16 Jul	7,874	211,460	7,291	143,384	6,822	141,989	9,879	40,387	29,973	88,177	9,137	19,957	70,976	645,354
17 Jul	8,806	220,266	8,092	151,476	7,281	149,270							24,179	669,533
18 Jul	1,130	221,396	612	152,088	4,224	153,494							5,966	675,499
19 Jul	3,067	224,463	3,732	155,820	5,680	159,174							12,479	687,978
20 Jul	4,044	228,507	4,277	160,097	9,994	169,168	10,905	51,292	48,001	136,178	7,644	27,601	84,865	772,843
21 Jul	6,396	234,903	5,669	165,766	2,841	172,009							14,906	787,749
22 Jul	6,886	241,789	8,351	174,117	9,788	181,797							25,025	812,774
23 Jul	4,029	245,818	5,550	179,667	3,341	185,138	5,447	56,739	18,410	154,588	4,326	31,927	41,103	853,877
27 Jul	4,416	250,234	6,202	185,869	6,294	191,432							16,912	870,789
1 Aug	1,107	251,341	1,975	187,844	2,334	193,766	2,024	58,763	3,369	157,957	1,104	33,031	11,913	882,702
3 Aug	1,357	252,698	1,841	189,685	1,495	195,261	1,482	60,245	2,848	160,805	883	33,914	9,906	892,608
6 Aug	761	253,459	585	190,270	922	196,183	1,109	61,354	3,971	164,776	1,015	34,929	8,363	900,971
10 Aug	147	253,606	529	190,799	702	196,885	427	61,781	2,565	167,341	512	35,441	4,882	905,853

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Central District - West Side Set Gillnet																					
Date	245-10		245-20		245-30		245-40		245-50		245-55		245-60		246-10		246-20		Total		
	Chinitna Bay		Silv. Salmon		Tuxedni Bay		Polly Cr.		L. J. Slough		Big River		W. Forelands		Kalgin - West		Kalgin - East				
Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum
1 Jun											416	416			1,800	1,800			2,216	2,216	
3 Jun											571	987			2,723	4,523			3,294	5,510	
5 Jun											132	1,119			2,142	6,665			2,274	7,784	
8 Jun											107	1,226			2,729	9,394			2,836	10,620	
10 Jun											552	1,778			3,188	12,582			3,740	14,360	
12 Jun											718	2,496			2,126	14,708			2,844	17,204	
15 Jun											446	2,942			1,777	16,485			2,223	19,427	
17 Jun											454	3,396			778	17,263			1,232	20,659	
18 Jun			492	492								3,396				17,263			492	21,151	
19 Jun				492							266	3,662			974	18,237			1,240	22,391	
22 Jun			684	1,176							129	3,791			1,764	20,001			2,577	24,968	
24 Jun				1,176								3,791			1,542	21,543			1,542	26,510	
25 Jun			705	1,881	91	91						3,791			924	22,467	246	246	1,966	28,476	
29 Jun			2,412	4,293	139	230						3,791			4,220	26,687	409	655	7,180	35,656	
1 Jul				4,293	44	274						3,791				26,687		655	44	35,700	
2 Jul			2,496	6,789		274					86	3,877			1,206	27,893	193	848	3,981	39,681	
3 Jul			1,395	8,184		274						3,877				27,893		848	1,395	41,076	
4 Jul			2,196	10,380		274						3,877				27,893		848	2,196	43,272	
5 Jul			1,547	11,927		274						3,877				27,893		848	1,547	44,819	
6 Jul			2,231	14,158		274					42	3,919			2,747	30,640	439	1,287	5,459	50,278	
7 Jul			2,118	16,276		274						3,919				30,640		1,287	2,118	52,396	
9 Jul			4,798	21,074	126	400						3,919			1,429	32,069	267	1,554	6,620	59,016	
10 Jul			1,828	22,902		400						3,919				32,069		1,554	1,828	60,844	
11 Jul			5,204	28,106		400						3,919				32,069		1,554	5,204	66,048	
12 Jul			2,861	30,967		400						3,919				32,069		1,554	2,861	68,909	

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Central District - West Side Set Gillnet																					
		245-10		245-20		245-30		245-40		245-50		245-55		245-60		246-10		246-20			
		Chinitna Bay		Silv. Salmon		Tuxedni Bay		Polly Cr.		L. J. Slough		Big River		W. Forelands		Kalgin - West		Kalgin - East		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	
13 Jul			3,899	34,866	93	493						3,919				4,454	36,523	745	2,299	9,191	78,100
14 Jul			2,430	37,296		493						3,919				36,523		2,299	2,430	80,530	
16 Jul			4,443	41,739	711	1,204						3,919	183	183	3,123	39,646	2,203	4,502	10,663	91,193	
17 Jul			1,757	43,496		1,204						3,919		183		39,646		4,502	1,757	92,950	
18 Jul			4,860	48,356		1,204						3,919		183		39,646		4,502	4,860	97,810	
19 Jul			521	48,877		1,204						3,919		183		39,646		4,502	521	98,331	
20 Jul			7,100	55,977	255	1,459						3,919	86	269		39,646	4,160	8,662	11,601	109,932	
21 Jul			374	56,351		1,459						3,919		269		39,646		8,662	374	110,306	
23 Jul			553	56,904	201	1,660						3,919	53	322	3,269	42,915	1,162	9,824	5,238	115,544	
24 Jul			135	57,039		1,660						3,919		322		42,915		9,824	135	115,679	
25 Jul			145	57,184		1,660						3,919		322		42,915		9,824	145	115,824	
26 Jul			204	57,388		1,660						3,919		322		42,915		9,824	204	116,028	
27 Jul			86	57,474	217	1,877						3,919	198	520	2,447	45,362	1,299	11,123	4,247	120,275	
28 Jul			104	57,578		1,877						3,919				45,362		11,123	104	120,379	
30 Jul			119	57,697	140	2,017						3,919				1,216	46,578	737	11,860	2,212	122,591
31 Jul			89	57,786		2,017						3,919					46,578		11,860	89	122,680
1 Aug			460	58,246		2,017						3,919				936	47,514	512	12,372	1,908	124,588
2 Aug			133	58,379		2,017						3,919					47,514		12,372	133	124,721
3 Aug			307	58,686	261	2,278						31	3,950			1,100	48,614	754	13,126	2,453	127,174
6 Aug			169	58,855	58	2,336						25	3,975			1,059	49,673	496	13,622	1,807	128,981
10 Aug			59	58,914	76	2,412										891	50,564	521	14,143	1,547	130,528
13 Aug			15	58,929	6	2,418										257	50,821	290	14,433	568	131,096
17 Aug			15	58,944	0	2,418														15	131,111
20 Aug					7	2,425														7	131,118
24 Aug					96	2,521														96	131,214

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Northern District Set Gillnet																				
	247-10		247-20		247-30		247-41		247-42		247-43		247-70		247-80		247-90			
	Trading Bay		Tyonek		Beluga		Su. Flats		Pt. McKenzie		Fire Island		Pt. Possession		Birch Hill		#3 Bay		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum
25 May													2	2			2	2	4	4
1 Jun	9	9	3	3	1	1			3	3			37	39	12	12	37	39	102	106
8 Jun	214	223	7	10	6	7	9	9	6	9	7	7	97	136	23	35	84	123	453	559
25 Jun		223	136	146	10	17	2	11	2	11		7	54	190	76	111	348	471	628	1,187
29 Jun		223	369	515	16	33		11		11		7	78	268	138	249	136	607	737	1,924
2 Jul		223	948	1,463		33		11		11		7	454	722	103	352	329	936	1,834	3,758
6 Jul		223	1,598	3,061	184	217		11		11		7	1,295	2,017	151	503	59	995	3,287	7,045
9 Jul		223	707	3,768	91	308		11	154	165		7	387	2,404	103	606	216	1,211	1,658	8,703
13 Jul		223	2,379	6,147	712	1,020	50	61	634	799	333	340	494	2,898	126	732	382	1,593	5,110	13,813
16 Jul	52	275	3,090	9,237	1,520	2,540	965	1,026	895	1,694	254	594	1,678	4,576	695	1,427	650	2,243	9,799	23,612
20 Jul	75	350	331	9,568	387	2,927	304	1,330	818	2,512		594	1,298	5,874	616	2,043	380	2,623	4,209	27,821
23 Jul		350		9,568	157	3,084	178	1,508	453	2,965		594	253	6,127	126	2,169	117	2,740	1,284	29,105
27 Jul	43	393	455	10,023	330	3,414	41	1,549	91	3,056	45	639	1,126	7,253	546	2,715	1,017	3,757	3,694	32,799
30 Jul		393	443	10,466	171	3,585	218	1,767	145	3,201	104	743	685	7,938	307	3,022	1,043	4,800	3,116	35,915
3 Aug		393	456	10,922	120	3,705	56	1,823	179	3,380	32	775	63	8,001	184	3,206	349	5,149	1,439	37,354
6 Aug	111	504	473	11,395	41	3,746	72	1,895	110	3,490	14	789	167	8,168	173	3,379	133	5,282	1,294	38,648
10 Aug	84	588	362	11,757	21	3,767	38	1,933	66	3,556	18	807	101	8,269	109	3,488	117	5,399	916	39,564
13 Aug			29	11,786	34	3,801	2	1,935	5	3,561	5	812	107	8,376	114	3,602	117	5,516	413	39,977
17 Aug			45	11,831	11	3,812			0	3,561	4	816	25	8,401	21	3,623	32	5,548	138	40,115
20 Aug			36	11,867	1	3,813			3	3,564	4	820	17	8,418	0	3,623	43	5,591	104	40,219
24 Aug				11,867		3,813					3	823	27	8,445	1	3,624	369	5,960	400	40,619
27 Aug			2	11,869	3	3,816											3	5,963	8	40,627
31 Aug													6	8,451			12	5,975	18	40,645
3 Sep																	3	5,978	3	40,648
7 Sep																	4	5,982	4	40,652

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Central District Drift Gillnet									
Date	Deliveries	244-61		244-60		245-10		Total	
		Kasilof Section		District Wide		Chinitna Bay			
		Day	Cum	Day	Cum	Day	Cum	Day	Cum
22 Jun	72			5,866	5,866			5,866	5,866
25 Jun	122			10,915	16,781			10,915	16,781
27 Jun	30	1,120	1,120		16,781			1,120	17,901
28 Jun	4	576	1,696		16,781			576	18,477
29 Jun	200		1,696	32,454	49,235			32,454	50,931
1 Jul	38	3,151	4,847		49,235			3,151	54,082
2 Jul	248		4,847	26,364	75,599			26,364	80,446
4 Jul	48	1,124	5,971		75,599			1,124	81,570
6 Jul	302		5,971	64,980	140,579			64,980	146,550
7 Jul	19	916	6,887		140,579			916	147,466
8 Jul	16	364	7,251		140,579			364	147,830
9 Jul	337		7,251	137,338	277,917			137,338	285,168
13 Jul	337		7,251	143,674	421,591			143,674	428,842
16 Jul	355		7,251	233,568	655,159			233,568	662,410
20 Jul	376	831	8,082	116,038	771,197			116,869	779,279
23 Jul	353			152,776	923,973			152,776	932,055
1 Aug	209			10,167	934,140			10,167	942,222
3 Aug	202			21,022	955,162			21,022	963,244
6 Aug	134			3,675	958,837			3,675	966,919
10 Aug	63			714	959,551			714	967,633
13 Aug	19			182	959,733			182	967,815
17 Aug	25			98	959,831			98	967,913
20 Aug	16			54	959,885			54	967,967
24 Aug	17			63	959,948			63	968,030
26 Aug	4				959,948	5	5	5	968,035
28 Aug	<4				959,948	2	7	2	968,037
31 Aug	8			16	959,964		7	16	968,053
2 Sep	4				959,964	6	13	6	968,059
3 Sep	<4			5	959,969		13	5	968,064
4 Sep	<4				959,969	5	18	5	968,069
7 Sep	6			4	959,973			4	968,073
14 Sep	<4			2	959,975			2	968,075

Note: Days without data indicate days when there was no harvest.

Appendix A5.–Commercial coho salmon catch by area and date, Upper Cook Inlet, 2009.

Upper Subdistrict Set Gillnet															
	244-21		244-22		244-31		244-32		244-41		244-42		TOTAL		
	Ninilchik		Cohoe		South K.Beach		N. Kbeach		Salamatof		E. Forelands				
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	
25 Jun														0	0
27 Jun														0	0
28 Jun														0	0
29 Jun			8	8	1	1								9	9
1 Jul				8	3	4								3	12
2 Jul			1	9		4								1	13
4 Jul	2	2	2	11	1	5								5	18
6 Jul	2	4	2	13	25	30								29	47
7 Jul	4	8	4	17	2	32								10	57
8 Jul	9	17	4	21	4	36								17	74
9 Jul	7	24	13	34	2	38	3	3	22	22	5	5		52	126
11 Jul	89	113	3	37	6	44								98	224
12 Jul	7	120	10	47	2	46								19	243
13 Jul	6	126	6	53	5	51	2	5	35	57	28	33		82	325

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Upper Subdistrict Set Gillnet														
	244-21		244-22		244-31		244-32		244-41		244-42		TOTAL	
	Ninilchik		Cohoe		South K.Beach		North K.Beach		Salamatof		E. Forelands			
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
15 Jul	5	131	5	58	2	53							23	348
16 Jul	11	142	3	61	3	56	3	8	34	91	28	61	71	419
17 Jul	11	153	12	73	1	57							24	443
18 Jul	4	157	4	77	1	58							9	452
19 Jul	14	171	19	96	4	62							37	489
20 Jul	17	188	11	107	4	66	5	13	59	150	102	163	198	687
21 Jul	10	198	27	134	2	68							82	769
22 Jul	54	252	38	172	30	98							79	848
23 Jul	59	311	19	191	8	106	19	32	171	321	160	323	436	1,284
27 Jul	81	392	32	223	16	122							129	1,413
1 Aug	138	530	110	333	63	185	229	261	420	741	339	662	1,299	2,712
3 Aug	286	816	183	516	56	241	123	384	398	1,139	329	991	1,375	4,087
6 Aug	639	1,455	397	913	120	361	197	581	1,301	2,440	527	1,518	3,181	7,268
10 Aug	321	1,776	573	1,486	285	646	220	801	2,163	4,603	605	2,123	4,167	11,435

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Central District - West Side Set Gillnet

	245-10 Chinitna Bay		245-20 Silv. Salmon		245-30 Tuxedni Bay		245-40 Polly Cr.		245-50 L. J. Slough		245-55 Big River		245-60 W. Forelands		246-10 Kalgin - West		246-20 Kalgin - East		Total		
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	
2 Jul																2	2			2	2
5 Jul					1	1											2			1	3
6 Jul					0	1					1	1				15	17			16	19
9 Jul					3	4						1				21	38			24	43
11 Jul					1	5						1					38			1	44
12 Jul					3	8						1					38			3	47
13 Jul					2	10			2	2		1				99	137			103	150
14 Jul					11	21				2		1					137			11	161
16 Jul					31	52			21	23		1	12	12	212	349	52	52	328	489	
17 Jul					19	71				23		1		12		349		52	19	508	
18 Jul					140	211				23		1		12		349		52	140	648	
19 Jul					1	212				23		1		12		349		52	1	649	
20 Jul					1,210	1,422			51	74		1	41	53		349	359	411	1,661	2,310	
21 Jul					40	1,462				74		1		53		349		411	40	2,350	
23 Jul					90	1,552			56	130		1	83	136	1,110	1,459	496	907	1,835	4,185	

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Central District - West Side Set Gillnet

		245-10		245-20		245-30		245-40		245-50		245-55		245-60		246-10		246-20			
		Chinitna Bay		Silv. Salmon		Tuxedni Bay		Polly Cr.		L. J. Slough		Big River		W. Forelands		Kalgín - West		Kalgín - East		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	
24 Jul					40	1,592				130		1		136		1,459		907	40	4,225	
25 Jul					40	1,632				130		1		136		1,459		907	40	4,265	
26 Jul					108	1,740				130		1		136		1,459		907	108	4,373	
27 Jul					83	1,823			173	303		1	192	328	3,428	4,887	2,228	3,135	6,104	10,477	
28 Jul					290	2,113				303		1				4,887		3,135	290	10,767	
30 Jul					36	2,149			198	501		1			1,667	6,554	789	3,924	2,690	13,457	
31 Jul					282	2,431				501		1				6,554		3,924	282	13,739	
1 Aug					338	2,769				501		1			838	7,392	352	4,276	1,528	15,267	
2 Aug					103	2,872				501		1				7,392		4,276	103	15,370	
3 Aug					214	3,086			448	949	368	369			719	8,111	262	4,538	2,011	17,381	
6 Aug					333	3,419			301	1,250	303	672			235	8,346	175	4,713	1,347	18,728	
10 Aug					76	3,495			498	1,748					1,079	9,425	441	5,154	2,094	20,822	
13 Aug					36	3,531			72	1,820					272	9,697	202	5,356	582	21,404	
17 Aug					109	3,640			192	2,012									301	21,705	
20 Aug									317	2,329									317	22,022	
24 Aug									28	2,357									28	22,050	

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Northern District Set Gillnet

	247-10		247-20		247-30		247-41		247-42		247-43		247-70		247-80		247-90			
	Trading Bay		Tyonek		Beluga		Su. Flats		Pt. McKenzie		Fire Island		Pt. Possession		Birch Hill		#3 Bay		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum
2 Jul			3	3															3	1
6 Jul			17	20	4	4							2	2					23	24
9 Jul			25	45	13	17			16	16			4	6			2	2	60	84
13 Jul			265	310	64	81	2	2	96	112	34	34	9	15			12	14	482	566
16 Jul	5	5	466	776	236	317	80	82	106	218	118	152	33	48	1	1	1	15	1,046	1,612
20 Jul	8	13	121	897	159	476	110	192	236	454		152	259	307	97	98	9	24	999	2,611
23 Jul		13		897	93	569	57	249	135	589		152	55	362	22	120	21	45	383	2,994
27 Jul	60	73	1,275	2,172	469	1,038	67	316	95	684	58	210	1,136	1,498	358	478	420	465	3,938	6,932
30 Jul		73	1,614	3,786	1,060	2,098	659	975	177	861	325	535	902	2,400	378	856	482	947	5,597	12,529
3 Aug		73	1,259	5,045	1,176	3,274	417	1,392	2,115	2,976	457	992	258	2,658	180	1,036	98	1,045	5,960	18,489
6 Aug	279	352	1,583	6,628	237	3,511	579	1,971	508	3,484	42	1,034	344	3,002	311	1,347	125	1,170	4,008	22,497
10 Aug	213	565	638	7,266	423	3,934	257	2,228	565	4,049	294	1,328	422	3,424	379	1,726	259	1,429	3,450	25,947
13 Aug			193	7,459	229	4,163	39	2,267	145	4,194	135	1,463	539	3,963	790	2,516	537	1,966	2,607	28,554
17 Aug			519	7,978	221	4,384			90	4,284	189	1,652	430	4,393	891	3,407	851	2,817	3,191	31,745
20 Aug			338	8,316	51	4,435			63	4,347	64	1,716	165	4,558	387	3,794	537	3,354	1,605	33,350
24 Aug			81	8,397		4,435					49	1,765	245	4,803	317	4,111	475	3,829	1,167	34,517
27 Aug			204	8,601	11	4,446								4,803	25	4,136	107	3,936	347	34,864
31 Aug													152	4,955	252	4,388	1,022	4,958	1,426	36,290
3 Sep													195	5,150	283	4,671	536	5,494	1,014	37,304
7 Sep													6	5,156			317	5,811	323	37,627

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Central District Drift Gillnet									
Date	Deliveries	244-61		244-60		245-10		Total	
		Kasilof Section		District Wide		Chinitna Bay			
		Day	Cum	Day	Cum	Day	Cum	Day	Cum
22 Jun	72			5	5			5	5
29 Jun	200			410	415			410	415
2 Jul	248			98	513			98	513
6 Jul	302			520	1033			520	1,033
7 Jul	19	12	12		1033			12	1,045
9 Jul	337			1,773	2806			1,773	2,818
13 Jul	337			3,720	6526			3,720	6,538
16 Jul	355			6,763	13289			6,763	13,301
20 Jul	376			9,960	23249			9,960	23,261
23 Jul	353			12,546	35795			12,546	35,807
1 Aug	209			6,984	42779			6,984	42,791
3 Aug	202			16,502	59281			16,502	59,293
6 Aug	134			6,952	66233			6,952	66,245
10 Aug	63			3,142	69375			3,142	69,387
13 Aug	19			1,123	70498			1,123	70,510
17 Aug	25			1,976	72474			1,976	72,486
20 Aug	16			1,490	73964			1,490	73,976
24 Aug	17			1,968	75932			1,968	75,944
26 Aug	4				75932	1,110	1,110	1,110	77,054
28 Aug	<4				75932	198	1,308	198	77,252
31 Aug	8			1,570	77502		1,308	1,570	78,822
2 Sep	4				77502	1,125	2,433	1,125	79,947
3 Sep	<4			280	77782		2,433	280	80,227
4 Sep	<4				77782	652	3,085	652	80,879
7 Sep	6			929	78711			929	81,808
14 Sep	<4			288	78999			288	82,096

Note: Days without data indicate days when there was no harvest.

Appendix A6.—Commercial pink salmon catch by area and date, Upper Cook Inlet, 2009.

Upper Subdistrict Set Gillnet														
	244-21		244-22		244-31		244-32		244-41		244-42			
	Ninilchik		Cohoe		South K.Beach		N. Kbeach		Salamatof		E. Forelands		TOTAL	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
25 Jun	13	13	5	5	7	7							25	25
27 Jun	24	37	6	11	21	28							51	76
28 Jun	23	60	13	24	3	31							39	115
29 Jun	52	112	33	57	29	60							114	229
1 Jul	168	280	103	160	35	95							306	535
2 Jul	221	501	145	305	54	149							420	955
4 Jul	635	1,136	285	590	191	340							1,111	2,066
6 Jul	1,707	2,843	1033	1,623	145	485							2,885	4,951
7 Jul	839	3,682	923	2,546	70	555							1,832	6,783
8 Jul	2,075	5,757	1,169	3,715	230	785							3,474	10,257
9 Jul	2,133	7,890	2,499	6,214	310	1,095	102	102	491	491	461	461	5,996	16,253
11 Jul	1,769	9,659	524	6,738	127	1,222							2,420	18,673
12 Jul	3,122	12,781	964	7,702	224	1,446							4,310	22,983
13 Jul	1340	14,121	1,623	9,325	263	1,709	99	201	542	1,033	538	999	4,405	27,388

-continued-

Upper Subdistrict Set Gillnet

	244-21		244-22		244-31		244-32		244-41		244-42		TOTAL	
	Ninilchik		Cohoe		South K.Beach		North K.Beach		Salamatof		E. Forelands			
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
15 Jul	1,202	15,323	767	10,092	238	1,947							2,207	29,595
16 Jul	2,714	18,037	2,112	12,204	321	2,268	118	319	438	1,471	963	1,962	6,666	36,261
17 Jul	2,053	20,090	908	13,112	92	2,360							3,053	39,314
18 Jul	242	20,332	152	13,264	88	2,448							482	39,796
19 Jul	1,352	21,684	971	14,235	41	2,489							2,364	42,160
20 Jul	1,766	23,450	656	14,891	174	2,663	77	396	371	1,842	529	2,491	3,573	45,733
21 Jul	1,201	25,651	828	15,719	86	2,749							3,514	49,247
22 Jul	1,689	26,340	923	16,642	181	2,930							1,394	50,641
23 Jul	602	26,942	610	17,252	146	3,076	117	513	321	2,163	425	2,916	2,221	52,862
27 Jul	205	27,147	113	17,365	105	3,181							423	53,285
1 Aug	87	27,234	134	17,499	35	3,216	22	535	176	2,339	211	3,127	665	53,950
3 Aug	148	27,382	188	17,687	24	3,240	22	557	421	2,760	649	3,776	1,452	55,402
6 Aug	47	27,429	18	17,705	9	3,249	8	565	111	2,871	112	3,888	305	55,707
10 Aug	2	27,431	25	17,730	8	3,257	2	567	63	2,934	38	3,926	138	55,845

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Central District - West Side Set Gillnet

	245-10		245-20		245-30		245-40		245-50		245-55		245-60		246-10		246-20		Total	
	Chinitna Bay		Silv. Salmon		Tuxedni Bay		Polly Cr.		L. J. Slough		Big River		W. Forelands		Kalgin - West		Kalgin - East			
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum
19 Jun															3	3			3	3
22 Jun					2	2									1	4			3	6
24 Jun						2									2	6			2	8
25 Jun					1	3									1	7			2	10
29 Jun					29	32									31	38	3	3	63	73
2 Jul					43	75									51	89	20	23	114	187
3 Jul					68	143										89		23	68	255
4 Jul					253	396										89		23	253	508
5 Jul					184	580										89		23	184	692
6 Jul					124	704									395	484	0	23	519	1,211
7 Jul					146	850										484		23	146	1,357
9 Jul					238	1,088									566	1,050	0	23	804	2,161
10 Jul					134	1,222										1,050		23	134	2,295
11 Jul					112	1,334										1,050		23	112	2,407
12 Jul					86	1,420										1,050		23	86	2,493
13 Jul					53	1,473			59	59					451	1,501	22	45	585	3,078
14 Jul					98	1,571				59						1,501		45	98	3,176
16 Jul					289	1,860			182	241					576	2,077	159	204	1,206	4,382

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Central District - West Side Set Gillnet

245-10		245-20		245-30		245-40		245-50		245-55		245-60		246-10		246-20				
Chinitna Bay		Silv. Salmon		Tuxedni Bay		Polly Cr.		L. J. Slough		Big River		W. Forelands		Kalgin - West		Kalgin - East		Total		
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum
17 Jul					79	1,939				241					2,077		204	79	4,461	
18 Jul					239	2,178				241					2,077		204	239	4,700	
20 Jul					1,176	3,354			186	427					2,077	239	443	1,601	6,301	
21 Jul					32	3,386				427					2,077		443	32	6,333	
23 Jul					20	3,406			33	460				1,728	3,805	216	659	1,997	8,330	
24 Jul					12	3,418				460					3,805		659	12	8,342	
25 Jul					16	3,434				460					3,805		659	16	8,358	
26 Jul					8	3,442				460					3,805		659	8	8,366	
27 Jul					18	3,460			53	513			3	3	990	4,795	71	730	1,135	9,501
28 Jul					13	3,473				513					4,795		730	13	9,514	
30 Jul					65	3,538			53	566				241	5,036	366	1,096	725	10,239	
31 Jul					5	3,543				566					5,036		1,096	5	10,244	
1 Aug					47	3,590				566				285	5,321	27	1,123	359	10,603	
2 Aug					2	3,592				566					5,321		1,123	2	10,605	
3 Aug									47	613					1,010	6,331	190	1,313	1,247	11,852
6 Aug									1	614	2	2			110	6,441	6	1,319	119	11,971
10 Aug															190	6,631	32	1,351	222	12,193
13 Aug															53	6,684			53	12,246

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Northern District Set Gillnet																					
	247-10		247-20		247-30		247-41		247-42		247-43		247-70		247-80		247-90				
	Trading Bay		Tyonek		Beluga		Su. Flats		Pt. McKenzie		Fire Island		Pt. Possession		Birch Hill		#3 Bay		Total		
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	
29 Jun													9	9	4	4	1	1	14	14	
2 Jul			2	2									118	127	2	6	11	12	133	147	
6 Jul			19	21	7	7							498	625	15	21	5	17	544	691	
9 Jul			46	67	13	20			8	8			336	961	13	34	44	61	460	1,151	
13 Jul			92	159	55	75			94	102	38	38	224	1,185	9	43	81	142	593	1,744	
16 Jul	1	1	196	355	8	83			0	102	0	38	1,178	2,363	32	75	127	269	1,542	3,286	
20 Jul	0	1	8	363	18	101	6	6	0	102		38	227	2,590	81	156	21	290	361	3,647	
23 Jul		1		363	3	104			13	115		38	41	2,631	3	159	25	315	85	3,732	
27 Jul	0	1	25	388	75	179			0	115	0	38	304	2,935	41	200	193	508	638	4,370	
30 Jul		1	80	468	61	240			0	115	0	38	642	3,577	91	291	223	731	1,097	5,467	
3 Aug		1	214	682	59	299			0	115	0	38	100	3,677	43	334	45	776	461	5,928	
6 Aug	9	10	80	762	64	363			24	139	16	54	152	3,829	114	448	13	789	472	6,400	
10 Aug	5	15	60	822	5	368							0	3,829			4	793	74	6,474	
13 Aug			0	822	8	376							33	3,862			6	799	47	6,521	
17 Aug			22	844	2	378							1	3,863			4	803	29	6,550	
20 Aug			3	847													1	804	4	6,554	

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Central District Drift Gillnet									
Date	Deliveries	244-61		244-60		245-10		Total	
		Kasilof Section		District Wide		Chinitna Bay			
		Day	Cum	Day	Cum	Day	Cum	Day	Cum
22 Jun	72			65	65			65	65
25 Jun	122			131	196			131	196
27 Jun	30	4	4		196			4	200
28 Jun	4	1	5		196			1	201
29 Jun	200		5	1,318	1,514			1,318	1,519
1 Jul	38	90	95		1,514			90	1,609
2 Jul	248		95	2,154	3,668			2,154	3,763
4 Jul	48	264	359		3,668			264	4,027
6 Jul	302		359	2,906	6,574			2,906	6,933
7 Jul	19	166	525		6,574			166	7,099
8 Jul	16	182	707		6,574			182	7,281
9 Jul	337			8,105	14,679			8,105	15,386
13 Jul	337			13,149	27,828			13,149	28,535
16 Jul	355			20,507	48,335			20,507	49,042
20 Jul	376			28,810	77,145			28,810	77,852
23 Jul	353			36,867	114,012			36,867	114,719
1 Aug	209			7,653	121,665			7,653	122,372
3 Aug	202			16,383	138,048			16,383	138,755
6 Aug	134			720	138,768			720	139,475
10 Aug	63			136	138,904			136	139,611
13 Aug	19			21	138,925			21	139,632
17 Aug	25			18	138,943			18	139,650
20 Aug	16			8	138,951			8	139,658
24 Aug	17			5	138,956			5	139,663
26 Aug	4				138,956	3	3	3	139,666
28 Aug	<4				138,956	5	8	5	139,671
31 Aug	8			2	138,958		8	2	139,673
4 Sep	<4					3	11	3	139,676

Note: Days without data indicate days when there was no harvest

Appendix A7.–Commercial chum salmon catch by area and date, Upper Cook Inlet, 2009.

Upper Subdistrict Set Gillnet														
Date	244-21		244-22		244-31		244-32		244-41		244-42		TOTAL	
	Ninilchik		Cohoe		South K.Beach		N. Kbeach		Salamatof		E. Forelands			
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
25 Jun													0	0
27 Jun													0	0
28 Jun													0	0
29 Jun					1	1							1	1
1 Jul						1							0	1
2 Jul						1							0	1
4 Jul	1	1				1							1	2
6 Jul		1				1							0	2
7 Jul	1	2			3	4							4	6
8 Jul		2	2	2		4							2	8
9 Jul	1	3		2	1	5			2	2			4	12
11 Jul	1	4		2		5							1	13
12 Jul	1	5	3	5		5							4	17
13 Jul	6	11	7	12	3	8			7	9	9	9	27	44

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Upper Subdistrict Set Gillnet														
Date	244-21		244-22		244-31		244-32		244-41		244-42		TOTAL	
	Ninilchik		Cohoe		South K.Beach		North K.Beach		Salamatof		E. Forelands			
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
15 Jul	1	12		7		8							1	45
16 Jul	2	14		7		8			8	17	8	17	18	63
17 Jul	2	16	2	9		8							4	67
18 Jul	2	18		9		8							2	69
19 Jul	1	19		9		8							1	70
20 Jul	3	22	1	10	1	9	1	1	8	25	6	23	20	90
21 Jul	1	23	0	10		9							176	266
22 Jul	2	25	4	14		9							6	272
23 Jul	1	26	2	16		9		1	11	36	29	52	43	315
27 Jul	2	28	1	17		9							3	318
1 Aug	6	34	2	19		9	2	3	4	40	21	73	35	353
3 Aug	2	36	6	25	2	11	1	4	11	51	15	88	37	390
6 Aug	1	37	1	26	1	12		4	27	78	45	133	75	465
10 Aug		37	3	29	4	16		4	12	90	10	143	29	494

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Central District - West Side Set Gillnet																						
245-10		245-20		245-30		245-40		245-50		245-55		245-60		246-10		246-20						
Chinitna Bay		Silv. Salmon		Tuxedni Bay		Polly Cr.		L. J. Slough		Big River		W. Forelands		Kalgin - West		Kalgin - East				Total		
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum
4 Jul					3	3														3	3	
5 Jul					2	5														2	5	
6 Jul					1	6														1	6	
9 Jul					1	7														1	7	
11 Jul					1	8														1	8	
12 Jul					2	10														2	10	
13 Jul					6	16									30	30				36	46	
14 Jul					3	19										30				3	49	
16 Jul					27	46									50	80	15	15		92	141	
17 Jul					12	58										80		15	12	153		
18 Jul					54	112										80		15	54	207		
19 Jul					18	130										80		15	18	225		
20 Jul					197	327			2	2			2	2		80	6	21	207	432		
21 Jul					16	343				2				2		80		21	16	448		
23 Jul					28	371			0	2			1	3	112	192	4	25	145	593		

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Central District - West Side Set Gillnet																					
		245-10 Chinitna Bay		245-20 Silv. Salmon		245-30 Tuxedni Bay		245-40 Polly Cr.		245-50 L. J. Slough		245-55 Big River		245-60 W. Forelands		246-10 Kalgín - West		246-20 Kalgín - East		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Da y	Cu m	Day	Cum	Da y	Cu m	Day	Cum	Day	Cum	Day	Cum	Da y	Cum	
24 Jul					7	378				2						192		25	7	600	
25 Jul					11	389				2						192		25	11	611	
26 Jul					5	394				2						192		25	5	616	
27 Jul					14	408			1	3					175	367	4	29	194	810	
28 Jul					18	426				3						367		29	18	828	
30 Jul					79	505			1	4					17	384	29	58	126	954	
31 Jul					23	528				4						384		58	23	977	
1 Aug					410	938				4					23	407	3	61	436	1,413	
2 Aug					4	942				4						407		61	4	1,417	
3 Aug					195	1,137			1	5					53	460	21	82	270	1,687	
6 Aug 10					166	1,303			0	5	1	1			15	475	1	83	183	1,870	
Aug 13					159	1,462			3	8					75	550	27	110	264	2,134	
Aug 17					36	1,498									16	566	46	156	98	2,232	
Aug					107	1,605													107	2,339	

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Northern District Set Gillnet																					
		247-10		247-20		247-30		247-41		247-42		247-43		247-70		247-80		247-90			
		Trading Bay		Tyonek		Beluga		Su. Flats		Pt. McKenzie		Fire Island		Pt. Possession		Birch Hill		#3 Bay		Total	
Date	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	Day	Cum	
2 Jul														1	1					1	1
6 Jul				4	4	1	1							2	3					7	8
9 Jul				0	4	1	2			1	1			0	3					2	10
13 Jul				30	34	58	60	1	1	77	78	26	26	4	7					196	206
16 Jul	1	1	13	47	57	117		9	10	17	95	34	60	16	23					147	353
20 Jul	0	1	0	47	15	132		4	14	78	173		60	16	39	2	2			115	468
23 Jul		1		47	6	138		28	42	62	235		60	0	39	0	2			96	564
27 Jul	0	1	32	79	89	227		0	42	29	264	7	67	23	62	3	5	3	3	186	750
30 Jul		1	101	180	246	473		82	124	21	285	70	137	207	269	43	48	2	5	772	1,522
3 Aug		1	51	231	265	738		2	126	96	381	28	165	22	291	3	51	4	9	471	1,993
6 Aug	7	8	108	339	67	805		79	205	147	528	6	171	23	314	26	77	4	13	467	2,460
10 Aug	4	12	70	409	135	940		50	255	145	673	13	184	4	318	0	77	1	14	422	2,882
13 Aug				0	409	53	993			28	701	14	198	17	335	4	81	2	16	118	3,000
17 Aug				13	422	20	1,013			4	705	5	203	7	342			0	16	49	3,049
20 Aug				2	424	5	1,018			5	710	4	207	1	343			1	17	18	3,067
24 Aug				0	424		1,018					2	209	4	347			0	17	6	3,073
27 Aug				1	425	2	1,020											0	17	3	3,076
7 Sep																		1	18	1	3,077

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Central District Drift Gillnet									
Date	Deliveries	244-61		244-60		245-10		Total	
		Kasilof Section		District Wide		Chinitna Bay			
		Day	Cum	Day	Cum	Day	Cum	Day	Cum
6/22	72	28	28					28	28
6/25	122	269	297					269	297
6/29	200	574	871					574	871
7/1	38		871	2	2			2	873
7/2	248	314	1,185		2			314	1,187
7/4	48		1,185	1	3			1	1,188
7/6	302	1,205	2,390		3			1,205	2,393
7/7	19	0	2,390	10	13			10	2,403
7/8	16		2,390	2	15			2	2,405
7/9	337	7,677	10,067					7,677	10,082
7/13	337	4,549	14,616					4,549	14,631
7/16	355	10,850	25,466					10,850	25,481
7/20	376	10,643	36,109					10,643	36,124
7/23	353	21,922	58,031					21,922	58,046
8/1	209	3,679	61,710					3,679	61,725
8/3	202	10,616	72,326					10,616	72,341
8/6	134	3,361	75,687					3,361	75,702
8/10	63	544	76,231					544	76,246
8/13	19	189	76,420					189	76,435
8/17	25	166	76,586					166	76,601
8/20	16	64	76,650					64	76,665
8/24	17	20	76,670					20	76,685
8/26	4		76,670			268	268	268	76,953
8/28	<4		76,670			18	286	18	76,971
8/31	8	10	76,680				286	10	76,981
9/2	4		76,680			30	316	30	77,011
9/3	<4	1	76,681				316	1	77,012
9/4	<4		76,681			56	372	56	77,068
9/7	6	4	76,685					4	77,072
9/14	<4	1	76,686					1	77,073

Note: Days without data indicate days when there was no harvest.

Appendix A8.—Commercial salmon catch by gear, statistical area and species, Upper Cook Inlet, 2009.

Gear	District	Subdistrict	Stat Area	Permits ^a	Chinook	Sockeye	Coho	Pink	Chum	Total
Drift	Central	All	All	405	859	968,075	82,096	139,676	77,073	1,267,779
Setnet	Central	Upper	24421	86	865	253,606	1,776	27,431	37	271,890
			24422	61	1,591	190,624	1,486	17,730	204	223,161
			24431	65	1,379	196,885	646	3,257	16	201,839
			24432	39	548	61,781	801	567	4	57,614
			24441	53	1,117	167,341	4,603	2,934	90	180,684
			24442	34	88	35,441	2,123	3,926	143	43,593
			All	328	5,588	905,678	11,435	55,845	494	979,040
		Kalgin Is.	24610	22	351	50,821	9,697	6,684	566	68,119
			24620	4	1	14,433	5,356	1351	156	21,297
			All	24	352	65,254	15,053	8,035	722	89,416
		Chinitna	24510	0	0	0	0	0	0	0
		Western	24520	<4	1	0	0	0	0	1
			24530	24	213	58,944	3,640	3,592	1,605	67,994
			24540							
			24550	<4	0	2,521	2,357	614	8	5,500
			All	27	214	61,465	5,997	4,206	1,613	73,495
		Kustatan	24555	11	107	3,975	672	2	1	4,757
			24560	<4	0	520	328	3	3	854
			All	12	107	4,495	1,000	5	4	5,611
		All	All	378	6,261	1,036,892	33,485	68,091	2,833	1,147,562
	Northern	General	24710	12	261	588	565	15	12	1,441
			24720	21	604	11869	8,601	847	425	22,346
			24730	18	200	3,816	4,446	378	1020	9,860
			24741	8	92	1,935	2,267	6	258	4,558
			24742	12	142	3,564	4,347	139	710	8,902
			24743	7	72	823	1,765	54	209	2,923
			All	58	1,371	22,595	21,991	1,439	2,634	50,030
		Eastern	24770	21	197	8,451	5,156	3863	347	18,014
			24780	12	39	3624	4,671	448	81	8,863
			24790	12	24	5,982	5,811	804	18	12,639
			All	35	260	18,057	15,638	5,115	446	39,516
		All	All	86	1,631	40,652	37,629	6,554	3,080	89,546
		All	All	467	7,892	1,077,544	71,114	74,645	5,913	1,237,108
Seine	All	All	All	0	0	0	0	0	0	0
All	All	All	All	859	8,751	2,045,619	153,210	214,321	82,986	2,504,887

^a Permit totals may be less than the sum of individual stat areas if some permits were fished in multiple stat areas.

Appendix A9.—Commercial salmon catch per permit by statistical area, Upper Cook Inlet, 2009.

Gear	District	Subdistrict	Stat Area	Permits ^a	Chinook	Sockeye	Coho	Pink	Chum	Total
Drift	Central	All	All	405	2	2,390	203	345	190	3,130
Setnet	Central	Upper	24421	86	10	2,949	21	319	0	3,162
			24422	61	26	3,125	24	291	3	3,658
			24431	65	21	3,029	10	50	0	3,105
			24432	39	14	1,584	21	15	0	1,477
			24441	53	21	3,157	87	55	2	3,409
			24442	34	3	1,042	62	115	4	1,282
			All	328	17	2,761	35	170	2	2,985
		Kalgin Is.	24610	22	16	2,310	441	304	26	3,096
			24620	4	0	3,608	1,339	338	39	5,324
			All	24	15	2,719	627	335	30	3,726
		Chinitna	24510	0	na	na	na	na	na	na
		Western	24520	<4	na	na	na	na	na	na
			24530	24	9	2,456	152	150	67	2,833
			24540	0	na	na	na	na	na	na
			24550	<4	na	na	na	na	na	na
			All	27	8	2,276	222	156	60	2,722
		Kustatan	24555	11	10	361	61	0	0	432
			24560	<4	na	na	na	na	na	na
			All	12	9	375	83	0	0	468
		All	All	378	17	2,743	89	180	7	3,036
	Northern	General	24710	12	22	49	47	1	1	120
			24720	21	29	565	410	40	20	1,064
			24730	18	11	212	247	21	57	548
			24741	8	12	242	283	1	32	570
			24742	12	12	297	362	12	59	742
			24743	7	10	118	252	8	30	418
			All	58	24	390	379	25	45	863
		Eastern	24770	21	9	402	246	184	17	858
			24780	12	3	302	389	37	7	739
			24790	12	2	499	484	67	2	1,053
			All	35	7	516	447	146	13	1,129
		All	All	86	19	473	438	76	36	1,041
		All	All	467	17	2,307	152	160	13	2,649
Seine	All	All	All	-	-	-	-	-	-	-
All	All	All	All	859	10	2,381	178	250	97	2,916

^a Permit totals may be less than the sum of individual stat areas if some permits were fished in multiple statistical areas.

Appendix A10.—Commercial fishing emergency orders issued during the 2009 Upper Cook Inlet fishing season.

Emergency Order No.	Effective Date	Action	Reason
1	25 May	Reduced the open fishing time from twelve hours to six hours for the two commercial salmon fishing periods scheduled in the Northern District of Upper Cook Inlet on Monday, May 25, 2009 and on Monday, June 1, 2009, from 7:00 a.m. until 1:00 p.m. only.	To comply with an emergency regulation passed by the board to reduce the exploitation rate of Deshka River Chinook salmon.
2	15 Jun	Closed commercial salmon fishing in the Northern District of Upper Cook Inlet on Monday, June 15, 2009 and Monday, June 22, 2009.	To reduce the exploitation of Deshka River Chinook salmon.
3	25 Jun	Extended set and drift gillnetting in the Kasilof Section of the Upper Subdistrict from 7:00 p.m. until 10:00 p.m. on Thursday, June 25, 2009	To reduce the escapement rate of Kasilof River sockeye salmon.
4	27 Jun	Opened set gillnetting in the Kasilof Section of the Upper Subdistrict from 10:00 a.m. on Saturday, June 27, 2009 until 4:00 p.m. on Sunday, June 28, 2009. Drift gillnetting was opened in the Kasilof Section from 10:00 a.m. until 11:00 p.m. on Saturday, June 27, 2009 and from 5:00 a.m. until 4:00 p.m. on Sunday, June 28, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
5	29 Jun	Extended set gillnetting in the Kasilof Section of the Upper Subdistrict from 7:00 p.m. until 12:00 midnight on Monday, June 29, 2009. Drift gillnetting was opened in the Kasilof Section from 7:00 p.m. until 12:00 midnight on Monday, June 29, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
6	1 Jul	Opened set and drift gillnetting in the Kasilof Section of the Upper Subdistrict from 6:00 a.m. until 7:00 p.m. on Wednesday, July 1, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
7	2 Jul	Opened commercial salmon fishing with set gillnets in that portion of the Western Subdistrict of the Central District south of the latitude of Redoubt Point from 7:00 a.m. on Thursdays until 12:00 noon on Fridays; from 7:00 a.m. on Saturdays until 12:00 noon on Sundays; and from 7:00 a.m. on Mondays until 12:00 noon on Tuesdays each week until further notice.	To reduce the escapement rate of Crescent River sockeye salmon.

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Emergency Order No.	Effective Date	Action	Reason
8	4 Jul	Opened set and drift gillnetting in the Kasilof Section of the Upper Subdistrict from 8:00 a.m. until 10:00 p.m. on Saturday, July 4, 2009.	To reduce the escapement rate of Crescent River sockeye salmon.
9	7 Jul	Opened set gillnetting in the Kasilof Section of the Upper Subdistrict from 12:00 noon on Tuesday, July 7, 2009 until 1:00 p.m. on Wednesday, July 8, 2009. Drift gillnetting was opened in the Kasilof Section from 12:00 noon to 12:00 midnight on Tuesday, July 7, 2009 and from 5:00 a.m. until 1:00 p.m. on Wednesday, July 8, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
10	9 Jul	Extended set gillnetting in the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict from 7:00 p.m. until 10:00 p.m. on Thursday, July 9, 2009. Drift gillnetting was opened in the Kenai and Kasilof Sections from 7:00 p.m. until 10:00 p.m. on Thursday, July 9, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon and to facilitate an orderly closure in the Kenai & East Forelands Sections.
11	11 Jul	UCI Commercial Fishing Announcement No. 11 Opened set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 10:00 a.m. until 8:00 p.m. on Saturday, July 11, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
12	11 Jul	Extended set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 8:00 p.m. until 10:00 p.m. on Saturday, July 11, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
13	12 Jul	Opened set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 7:00 a.m. until 10:00 p.m. on Sunday, July 12, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
14	13 Jul	Extended set gillnetting in the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict from 7:00 p.m. until 11:00 p.m. on Monday, July 13, 2009. Drift gillnetting was opened in the Kenai and Kasilof Sections from 7:00 p.m. until 11:00 p.m. on Monday, July 13, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon and to facilitate an orderly closure in the Kenai & East Forelands Sections.

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Emergency Order No.	Effective Date	Action	Reason
15	15 Jul	Opened set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 5:00 a.m. until 6:00 p.m. on Wednesday, July 15, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
16	16 Jul	Closed drift gillnetting in all areas of the Central District of Upper Cook Inlet, except in Drift Gillnet Areas 1 and 2 and in the Kenai and Kasilof Sections of the Upper Subdistrict from 7:00 a.m. until 7:00 p.m. on Thursday, July 16, 2009.	To reduce the exploitation rate of Susitna River sockeye and coho salmon.
17	17 Jul	Opened set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 10:00 a.m. on Friday, July 17, 2009 until 2:00 a.m. on Saturday, July 18, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
18	19 Jul	Opened set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 7:00 a.m. until 5:00 p.m. on Sunday July 19, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
19	20 Jul	Reduced legal gear to one set gillnet per permit, measuring no more than 35 fathoms in length, in the Northern District of Upper Cook Inlet during all regular Monday and Thursday fishing periods until further notice, beginning at 7:00 a.m. on Monday, July 20, 2009.	To comply with the Susitna River Sockeye Salmon Action Plan.
20	20 Jul	Closed drift gillnetting in all areas of the Central District of Upper Cook Inlet, except in Drift Gillnet Areas 1 and 2 and in the Kenai and Kasilof Sections of the Upper Subdistrict, from 7:00 a.m. until 7:00 p.m. on Monday, July 20, 2009.	To reduce the exploitation rate of Susitna River sockeye and coho salmon.
21	22 Jul	Opened set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 10:00 a.m. on Tuesday, July 21, 2009 until 12:00 noon on Wednesday, July 22, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.

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Emergency Order No.	Effective Date	Action	Reason
22	22 Jul	Extended set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 12:00 noon to 7:00 p.m. on Wednesday, July 22, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
23	23 Jul	Extended set gillnetting in the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict from 7:00 p.m. until 9:00 p.m. on Thursday, July 23, 2009. Drift gillnetting was opened in the Kenai and Kasilof Sections from 7:00 p.m. until 9:00 p.m. on Thursday, July 23, 2009	To reduce the escapement rate of Kasilof River sockeye salmon and to facilitate an orderly closure in the Kenai & East Forelands Sections.
24	27 Jul	Closed commercial salmon fishing with drift gillnets in all areas of the Central District of Upper Cook Inlet, on Monday July 27, 2009. In addition, commercial salmon fishing with set gillnets was closed in all areas of the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict of Upper Cook Inlet on Monday, July 27, 2009.	To reduce the exploitation rate of Kenai River sockeye salmon.
25	27 Jul	Amended emergency order number 24 and opened set gillnetting in that portion of the Kasilof Section of the Upper Subdistrict within ½ mile of the mean high tide mark on the Kenai Peninsula shoreline from 10:00 a.m. until 9:00 p.m. on Monday, July 27, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon.
26	30 Jul	Closed commercial salmon fishing with drift gillnets in all areas of the Central District of Upper Cook Inlet, on Thursday July 30, 2009. In addition commercial salmon fishing with set gillnets was closed in all areas of the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict of Upper Cook Inlet on Thursday July 30, 2009.	To reduce the exploitation rate of Kenai River sockeye salmon.
27	1 Aug	Opened set gillnetting in the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict from 7:00 a.m. until 7:00 p.m. on Saturday, August 1, 2009. Drift gillnetting was opened in the Central District of Upper Cook Inlet from 7:00 a.m. until 7:00 p.m. on Saturday, August 1, 2009. Set gillnetting was also opened in the Kalgin Island Subdistrict from 7:00 a.m. until 7:00 p.m. on Saturday, August 1, 2009.	To reduce the escapement rate of Kasilof River and Packers Lake sockeye salmon.

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Emergency Order No.	Effective Date	Action	Reason
28	2 Aug	Rescinded Emergency Order No. 9 and closed set gillnetting in that portion of the Western Subdistrict south of the latitude Redoubt Point at 12:00 noon on Sunday, August 2, 2009. This area was reopened to set gillnetting during regular fishing periods only, on Mondays and Thursdays from 7:00 a.m. to 7:00 p.m. beginning on Monday, August 3, 2009.	To reduce the exploitation rate of coho salmon in the Western Subdistrict.
29	6 Aug	Extended set gillnetting in the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict from 7:00 p.m. until 10:00 p.m. on Thursday, August 6, 2009. Drift gillnetting was opened in the Kenai and Kasilof Sections of the Upper Subdistrict from 7:00 p.m. until 10:00 p.m. on Thursday, August 6, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon and to facilitate an orderly closure in the Kenai & East Forelands Sections.
30	10 Aug	Rescinded Emergency Order Number 19 and returned the legal compliment of gear to four set gillnets per permit, measuring no more than 35 fathoms in length or 105 fathoms in the aggregate in the Northern District of Upper Cook Inlet for the remainder of the 2009 fishing season, except on Fire Island, where no net may be more than 35 fathoms and no more than 105 fathoms in the aggregate may be used, effective at 7:00 a.m. on Monday August 10, 2009.	To comply with the Susitna River Sockeye Salmon Action Plan.
31	10 Aug	Extended set gillnetting in the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict from 7:00 p.m. until 11:00 p.m. on Monday, August 10, 2009. Drift gillnetting was open in the Kenai and Kasilof Sections of the Upper Subdistrict from 7:00 p.m. until 11:00 p.m. on Monday, August 10, 2009.	To reduce the escapement rate of Kasilof River sockeye salmon and to facilitate an orderly closure in the Kenai & East Forelands Sections.

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Emergency Order No.	Effective Date	Action	Reason
32	11 Aug	Closed set gillnetting in the Kenai, Kasilof and East Forelands Sections of the Upper Subdistrict for the remainder of the 2009 fishing season, effective immediately. Drift gillnetting was closed in all areas of the Central District, except in Drift Gillnet Areas 3 and 4 for the remainder of the 2009 fishing season, effective immediately.	The estimated sockeye salmon harvest in the set gillnet fishery in the Kenai, Kasilof, and East Forelands Sections on Aug 6 and Aug 10 was less than 1% of the season total for both fishing periods. Closure of set gillnetting in the Upper Subdistrict and restriction of the open area for drift gillnetting is required by regulation.
33	26 Aug	Opened drift gillnetting in the Chinitna Bay Subdistrict of the Central District on Mondays, Wednesdays, and Fridays from 7:00 a.m. until 7:00 p.m., beginning on Wednesday, August 26, 2009, for the remainder of the season.	To provide an opportunity to harvest surplus chum salmon, as escapement goals for Clearwater Creek and Chinitna River had been achieved.

Appendix A11.—Commercial salmon fishing periods, Upper Cook Inlet, 2009.

Date	Day	Time	Set Gill Net	Drift Gill Net
25 May	Mon	0700-1300	Northern District	
1 Jun	Mon	0700-1300	Northern District	
		0700-1900	Kustatan - Big River - Kalgin Island	
3 Jun	Wed	0700-1900	Kustatan - Big River - Kalgin Island	
5 Jun	Fri	0700-1900	Kustatan - Big River - Kalgin Island	
8 Jun	Mon	0700-1900	N. Dist.-Kustatan-Big River-Kalgin Island	
10 Jun	Wed	0700-1900	Kustatan - Big River - Kalgin Island	
12 Jun	Fri	0700-1900	Kustatan - Big River - Kalgin Island	
15 Jun	Mon	0700-1900	Kustatan - Big River - Kalgin Island	
17 Jun	Wed	0700-1900	Kustatan - Big River - Kalgin Island	
18 Jun	Thu	0700-1900	Western Subdistrict	
19 Jun	Fri	0700-1900	Kustatan - Big River - Kalgin Island	
22 Jun	Mon	0700-1900	Western - Kustatan - Big River - Kalgin Isl.	All
24 Jun	Wed	0700-1900	Western - Kustatan - Big River - Kalgin Isl.	
25 Jun	Thu	0700-1900	All except N. Dist & Kenai & E. Forelands Sections	All
		1900-2200	Kasilof Section	Kasilof Section
27 Jun	Sat	1000-2400	Kasilof Section	
		1000-2300		Kasilof Section
28 Jun	Sun	0000-1600	Kasilof Section	
		0500-1600		Kasilof Section
29 Jun	Mon	0700-1900	All except N. Dist & Kenai & E. Forelands Sections	All
		1900-2400	Kasilof Section	Kasilof Section
1 Jul	Wed	0600-1900	Kasilof Section	Kasilof Section
2 Jul	Thu	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	Kasilof Section	All
3 Jul	Fri	0000-1200	Western Subdistrict south of Redoubt Pt.	
4 Jul	Sat	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0800-2200	Kasilof Section	Kasilof Section
5 Jul	Sun	0000-1200	Western Subdistrict south of Redoubt Pt.	
6 Jul	Mon	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	Kasilof Section	All
7 Jul	Tue	0000-1200	Western Subdistrict south of Redoubt Pt.	
		1200-2400	Kasilof Section	Kasilof Section
8 Jul	Wed	0000-1300	Kasilof Section	
		0500-1300		Kasilof Section

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Date	Day	Time	Set Gill Net	Drift Gill Net
9 Jul	Thu	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	All	Drift Area 1 & Ken/Kas Sections
		1900-2200	Kenai, Kasilof, & East Forelands Sections	Kenai & Kasilof Sections
10 Jul	Fri	0000-1200	Western Subdistrict south of Redoubt Pt.	
11 Jul	Sat	0700-2400	Western Subdistrict south of Redoubt Pt.	
		1000-2200	Kasilof Section within 1/2 mile of shore	
12 Jul	Sun	0000-1200	Western Subdistrict south of Redoubt Pt.	
		0700-2000	Kasilof Section within 1/2 mile of shore	
13 Jul	Mon	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	All	Drift Area 1 & Ken/Kas Sections
		1900-2300	Kenai, Kasilof, & East Forelands Sections	Kenai & Kasilof Sections
14 Jul	Tue	0000-1200	Western Subdistrict south of Redoubt Pt.	
15 Jul	Wed	0500-1800	Kasilof Section within 1/2 mile of shore	
16 Jul	Thu	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	All	Drift Areas 1 & 2 & Ken/Kas Sections
17 Jul	Fri	0000-1200	Western Subdistrict south of Redoubt Pt.	
		1000-2400	Kasilof Section within 1/2 mile of shore	
18 Jul	Sat	0000-1400	Kasilof Section within 1/2 mile of shore	
		0700-2400	Western Subdistrict south of Redoubt Pt.	
19 Jul	Sun	0000-1200	Western Subdistrict south of Redoubt Pt.	
		0700-1700	Kasilof Section within 1/2 mile of shore	
20 Jul	Mon	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	All	Drift Areas 1 & 2 & Ken/Kas Sections
21 Jul	Tue	0000-1200	Western Subdistrict south of Redoubt Pt.	
		1000-2400	Kasilof Section within 1/2 mile of shore	
22 Jul	Wed	0000-1900	Kasilof Section within 1/2 mile of shore	
23 Jul	Thu	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	All	All
		1900-2100	Kenai, Kasilof, & East Forelands Sections	Kenai & Kasilof Sections
24 Jul	Fri	0000-1200	Western Subdistrict south of Redoubt Pt.	
25 Jul	Sat	0700-2400	Western Subdistrict south of Redoubt Pt.	
26 Jul	Sun	0000-1200	Western Subdistrict south of Redoubt Pt.	

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Date	Day	Time	Set Gill Net	Drift Gill Net
27 Jul	Mon	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	
		1000-2100	Kasilof Section within 1/2 mile of shore	
28 Jul	Tue	0000-1200	Western Subdistrict south of Redoubt Pt.	
30 Jul	Thu	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	
31 Jul	Fri	0000-1200	Western Subdistrict south of Redoubt Pt.	
1 Aug	Sat	0700-2400	Western Subdistrict south of Redoubt Pt.	
		0700-1900	Kenai, Kasilof, & East Forelands Sections	All
2 Aug	Sun	0000-1200	Western Subdistrict south of Redoubt Pt.	
3 Aug	Mon	0700-1900	All	All
6 Aug	Thu	0700-1900	All	All
		1900-2200	Kenai, Kasilof, & East Forelands Sections	Kenai & Kasilof Sections
10 Aug	Mon	0700-1900	All	All
		1900-2300	Kenai, Kasilof, & East Forelands Sections	Kenai & Kasilof Sections
13 Aug	Thu	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Drift Areas 3 & 4
17 Aug	Mon	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Drift Areas 3 & 4
20 Aug	Thu	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Drift Areas 3 & 4
24 Aug	Mon	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Drift Areas 3 & 4
26 Aug	Wed	0700-1900		Chinitna Bay
27 Aug	Thu	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Drift Areas 3 & 4
28 Aug	Fri	0700-1900		Chinitna Bay
31 Aug	Mon	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Chinitna Bay
2 Sep	Wed	0700-1900		Chinitna Bay
3 Sep	Thu	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Drift Areas 3 & 4
4 Sep	Fri	0700-1900		Chinitna Bay
7 Sep	Mon	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Chinitna Bay
9 Sep	Wed	0700-1900		Chinitna Bay
10 Sep	Thu	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Drift Areas 3 & 4
11 Sep	Fri	0700-1900		Chinitna Bay
14 Sep	Mon	0700-1900	All, except Kenai, Kasilof, & East Forelands Sections	Chinitna Bay

Appendix A12.–Susitna River sockeye salmon studies, 2006–2009.

Yentna River Passage	2006	2007	2008	2009
Bendix	92,051	79,901	90,146	28,428
DIDSON	166,697	125,146	131,772	45,484
Weir Data	2006	2007	2008	2009
Chelatna	18,433	41,290	73,469	17,865
Judd	40,633	58,134	54,304	43,153
Larson	57,411	47,736	35,040	41,929
Weir Totals	116,477	147,160	162,813	102,947
Susitna Population Estimates	2006	2007	2008	2009
Mark Recapture	418,197	327,732	359,760	275,455 ^a
MR : Weirs ratio	3.6	2.2	2.2	2.7
MR : Bendix ratio	4.5	4.1	4.0	9.7

^a Estimated from mark–recapture to weir ratio from 2006–2008.

Appendix A13.—Age composition (in percent) of sockeye salmon escapements, Upper Cook Inlet, 2009.

Stream	Age Group												Total
	0.2	0.3	1.1	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	
Kenai River		0.1	0.3	6.1	0.1	72.6	9.8	0.9	9.7	0.1	0.1		100.0
Kasilof River			0.7	11.6	2.2	45.4	27.0	0.2	12.9				100.0
Yentna River	2.9	2.9	1.5	33.9	2.1	31.6	17.2	0.8	7.2				100.0
Crescent River	NO DATA IN 2009												
Fish Creek	2.1		9.1	72.5	1.9	8.3	6.2						100.0
Hidden Creek			2.1	64.8	0.3	21.2	8.1		3.1			0.4	100.0

Appendix A14.–Upper Cook Inlet salmon average weights (in pounds) by area, 2009.

Fishery	Chinook	Sockeye	Coho	Pink	Chum
Upper Cook Inlet Total	16.9	6.1	6.5	3.3	7.0
A. Northern District Total	14.0	5.6	6.1	3.0	6.4
1. Northern District West	13.9	5.7	5.9	2.9	6.4
a. Trading Bay 247-10	14.0	5.5	5.7	3.3	6.1
b. Tyonek 247-20	13.4	6.2	5.9	3.0	6.8
c. Beluga 247-30	14.4	5.9	6.0	2.5	7.1
d. Susitna Flat 247-41	11.9	4.3	5.5		6.1
e. Pt. Mackenzie 247-42	16.8	4.6	5.8	3.4	5.2
f. Fire Island 247-43	13.6	5.5	6.2	3.3	6.6
2. Northern District East	14.5	5.4	6.4	3.1	6.2
a. Pt. Possession 247-70	15.2	5.4	6.6	3.1	6.1
b. Birch Hill 247-80	12.2	5.4	6.6	3.1	6.6
c. Number 3 Bay 247-90	12.6	5.4	6.2	3.2	6.0
B. Central District Total	17.6	6.1	6.6	3.4	7.0
1. East Side Set Total	18.6	5.8	6.6	3.2	5.9
a. Salamatof/EastForelands	18.4	6.6	6.4	3.4	6.4
1. Salamatof 244-41	18.6	6.7	6.4	3.6	6.7
2. East Forelands 244-42	16.7	6.0	6.3	3.2	6.2
b. Kalifonsky Beach	20.5	5.5	6.8	3.1	7.2
1. South K. Beach 244-31	19.7	5.4	6.7	3.1	7.7
2. North K. Beach 244-32	22.7	6.1	6.8	3.2	5.0
d. Cohoe/Ninilchik	17.2	5.7	7.0	3.2	5.2
1. Cohoe 244-22	16.7	5.5	7.0	3.2	5.1
2. Ninilchik 244-21	18.0	5.8	7.0	3.2	6.0

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Fishery	Chinook	Sockeye	Coho	Pink	Chum
2. West Side Set Total	19.2	6.1	5.8	3.2	6.6
a. Little Jack Slough 245-50		5.1	5.9	3.1	6.6
b. Polly Creek 245-40	19.0	6.1	5.8	3.3	6.6
c. Tuxedni Bay 245-30	63.0				
3. Kustatan Total	24.4	5.1	6.5	2.8	6.3
a. Big River 245-55	24.4	5.0	6.9	2.5	10.0
b. West Foreland 245-60		5.9	5.7	3.0	5.0
4. Kalgin Island Total	20.6	5.8	5.9	3.3	6.3
a. West Side 246-10	20.7	5.8	6.0	3.3	6.3
b. East Side 246-20	7.0	5.6	5.8	3.2	5.9
5. Central District Set Total	18.8	5.8	6.2	3.2	6.4
6. Central District Drift Total	8.7	6.4	6.8	3.4	7.0
a. District Wide 244-60	8.7	6.4	6.8	3.4	7.0
b. Kasilof Section 244-61	11.1	6.2	7.4	3.0	7.4
c. Chinitna Bay 245-10	10.0	5.1	7.6	3.4	5.8

Note: Average weights determined from total pounds of fish divided by numbers of fish from commercial harvest tickets.

Appendix A15.–Major buyers and processors of Upper Cook Inlet fishery products, 2009

Buyer/Processor	Code	Plant Site	Contact	Address
Alaska Salmon Purchasers	F4665	Kenai	Mark Powell	HC01 Box 240 Kenai, AK 99611-0240
The Auction Block	F3785	Homer		P.O. Box 2228 Homer, AK 99603
BeachM Fishery	F7424	Kenai	Liz Chase	2101 Bowpicker Ln Kenai, AK 99611
Coal Point Seafood Co.	F1757	Homer	John	4306 Homer Spit Homer, AK 99603
Copper River Seafoods	F6426	Kasilof	Daryl	4000 W. 50th, Suite 2 Anchorage, AK 99502
Echo Lake Meats	F4732	Soldotna	John	P.O. Box 346 Soldotna, AK 99669
Favco	F0398	Anchorage	Greg Favretto	P.O. Box 190968 Anchorage, AK 99519
Fishhawk Fisheries	F1540	Kenai	Steve Fick	P.O. Box 715 Astoria Or. 97103
Icicle Seafoods	F0135	Seward	Melody Jordan	P.O. Box 79003 Seattle Wa. 98119
Inlet Fisheries Inc.	F4682	Kenai	Patrick Klier	P.O. Box 530 Kenai Ak. 99611
Inlet Fish Producers	F2806	Kenai	Ellie Tikka	200 Columbia St Kenai, AK 99611
Kenai River Seafoods	F7323	Kenai	Karin	2101 Bowpicker Ln Kenai, AK 99611
Ocean Beauty	F5204	Kenai	Pat Hardina	Box 8163 Nikiski Ak. 99635
Pacific Star Seafoods	F1834	Kenai	Dan Foley	520 Bridge Access Rd. Kenai, AK 99611
Peninsula Processing	F3789	Soldotna	Annette	720 K. Beach Rd. Soldotna, AK 99669
R & J Seafoods	F6087	Kasilof	Randy Meier	P.O. Box 165 Kasilof, AK 99610
Salamatof Seafoods	F0037	Kenai	Wylie Reed	P.O. Box 1450 Kenai Ak. 99615
Smoky Bay Seafoods	F7177	Ninilchik	Diedre	206 SW Michigan St Seattle Wa. 98106
Snug Harbor Seafoods	F3894	Kenai	Paul Dale	P.O. Box 701 Kenai, AK 99611

Appendix A16.—Number of salmon harvested by gear, area, and species in personal use fisheries, Upper Cook Inlet, 2009.

Fishery	Harvest					Total
	Chinook	Sockeye	Coho	Pink	Chum	
Kasilof Gillnet	127	26,646	165	14	11	26,963
Kasilof Dip Net	34	73035	1441	1274	173	75,957
Kenai Dip Net	1,189	339,993	2,401	5,482	285	349,350
Fish Creek Dip Net	10	9,898	53	66	33	10,060
Beluga Dip Net		140	78	7		225
No Site Reported	25	7,968	144	133	57	8,327
Total	1,385	457,680	4,282	6,976	559	470,882

Note: Preliminary estimates.

Appendix A17.–Age, weight, sex, and size distribution of Pacific herring sampled by gillnet in Upper Cook Inlet, 2009.

Sample date = May 15, 2009														
Sample Period	Age	No. of Fish						Percent of Total	Weight		Length			
		Male	Imm. Female	Ripe Female	Spawned Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
ESSN	3													
	4	1		1	1		3	5	111	11.3	3	204	13.1	3
	5	4		8	1		13	22	127	14.8	13	208	8.1	13
	6	7		17	3		27	45	141	23.5	27	213	13.4	27
	7	7		4	2		13	22	162	40.5	13	225	11.5	13
	8	2		1	1		4	7	179	38.9	4	240	12.8	4
	9													
Sample Total		21	0	31	8	0	60	100	144	31.4	60	216	15	60
Sex Composition		35%	0%	52%	13%	0%								

Sample date = May 21, 2009														
Sample Period	Age	No. of Fish						Percent of Total	Weight		Length			
		Male	Imm. Female	Ripe Female	Spawned Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
ESSN	3													
	4	1			2		3	3	130	40.7	3	208	26.7	3
	5	11		5	6		22	23	134	15.4	22	213	5.5	22
	6	20		3	18		41	42	137	15.7	41	217	8.9	41
	7	11		1	12		24	25	152	28.9	24	225	13.9	24
	8	5		1	1		7	7	158	19.4	7	227	7.0	7
	9													
Sample Total		48	0	10	39	0	97	100	141	22.1	97	218	11.5	97
Sex Composition		49%	0%	10%	40%	0%								

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Sample date = May 29, 2009														
Sample Period	Age	No. of Fish						Percent of Total	Weight		Length			
		Male	Imm. Female	Ripe Female	Spawnd Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
ESSN	3													
	4	4		32			36	30	98	14.7	36	187	7.9	36
	5	12		42	2		56	47	115	18.4	56	199	8.3	56
	6	10		6	2		18	15	119	18.7	18	204	7.8	18
	7	3		2	2		7	6	121	14.3	7	210	7.1	7
	8	1					1	1	200	NA	1	224	NA	1
	9	1					1	1	146	NA	1	219	NA	1
Sample Total		31	0	82	6	0	119	100	112	20.8	119	197	11.0	119
Sex Composition		26%	0%	69%	5%	0%								

Sample date = All														
Sample Period	Age	No. of Fish						Percent of Total	Weight		Length			
		Male	Imm. Female	Ripe Female	Spawnd Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
ESSN	3													
	4	6		33	3		42	15	101	22.2	42	190	15.9	42
	5	27		55	9		91	33	121	16.2	91	204	7.3	91
	6	37		26	23		86	31	134	19.3	86	213	10.1	86
	7	21		7	16		44	16	150	27.9	44	223	10.8	44
	8	8		2	2		12	4	169	29.2	12	231	9.9	12
	9	1					1	0	146	NA	1	219	NA	1
Sample Total		100	0	123	53	0	276	100	129	20.8	276	209	11.0	276
Sex Composition		84%	0%	103%	45%	0%		Average age of entire sample = 5.6 yrs						

Appendix A18—Age, sex, and size distribution of eulachon (smelt) from Upper Cook Inlet commercial dip net fishery, 2006–2009.

2006					2007				
Age	Sex	Length (mm)	No. Sampled	%	Age	Sex	Length (mm)	No. Sampled	%
3	Male	185	1	1%	3	Male	179	10	9%
	Female	-	-	-		Female	174	5	5%
4	Male	194	46	54%	4	Male	188	65	60%
	Female	186	22	26%		Female	186	23	21%
5	Male	200	14	16%	5	Male	201	4	4%
	Female	203	2	2%		Female	192	1	1%
Avg	Male	196	61	72%	Avg	Male	188	79	73%
	Female	187	24	28%		Female	184	29	27%
Avg - All		193			Avg - All		187		

2008					2009				
Age	Sex	Length (mm)	No. Sampled	%	Age	Sex	Length (mm)	No. Sampled	%
3	Male	194	3	3%	3	Male	195	12	7%
	Female	185	10	10%		Female	191	18	10%
4	Male	201	37	37%	4	Male	203	74	41%
	Female	193	36	36%		Female	194	58	32%
5	Male	208	12	12%	5	Male	203	13	7%
	Female	206	3	3%		Female	203	5	3%
Avg	Male	202	52	51%	Avg	Male	202	99	55%
	Female	192	49	49%		Female	194	81	45%
Avg - All		197			Avg - All		198		

Appendix A19.—Seldovia District tide tables, May through August, 2009.

MAY											
HIGH TIDES						LOW TIDES					
Date	Day	<u>A.M.</u>	Feet	<u>P.M.</u>	Feet	Date	Day	<u>A.M.</u>	Feet	<u>P.M.</u>	Feet
		Time		Time				Time		Time	
1	Fri	07:47A	15.9	09:19P	15.0	1	Fri	01:45A	4.9	02:31P	0.4
2	Sat	09:09A	14.8	10:29P	15.5	2	Sat	03:06A	5.0	03:45P	1.2
3	Sun	10:36A	14.5	11:31P	16.4	3	Sun	04:32A	4.1	04:57P	1.6
4	Mon	11:54A	15.1			4	Mon	05:44A	2.4	05:57P	1.6
5	Tue	12:22A	17.4	12:57P	15.9	5	Tue	06:42A	0.7	06:48P	1.6
6	Wed	01:05A	18.4	01:48P	16.8	6	Wed	07:29A	-0.9	07:33P	1.7
7	Thu	01:43A	19.1	02:33P	17.4	7	Thu	08:10A	-2.0	08:13P	1.9
8	Fri	02:19A	19.4	03:14P	17.7	8	Fri	08:48A	-2.6	08:51P	2.2
9	Sat	02:53A	19.5	03:53P	17.7	9	Sat	09:25A	-2.8	09:29P	2.6
10	Sun	03:26A	19.3	04:30P	17.4	10	Sun	10:00A	-2.5	10:05P	3.1
11	Mon	04:00A	18.7	05:08P	16.7	11	Mon	10:35A	-1.9	10:43P	3.8
12	Tue	04:35A	17.9	05:48P	15.9	12	Tue	11:12A	-1.0	11:21P	4.6
13	Wed	05:12A	16.9	06:31P	15.0	13	Wed	11:50A	0.0	-	-
14	Thu	05:52A	15.7	07:18P	14.1	14	Thu	12:03A	5.5	12:30P	1.2
15	Fri	06:37A	14.5	08:10P	13.5	15	Fri	12:50A	6.2	01:16P	2.3
16	Sat	07:33A	13.4	09:06P	13.4	16	Sat	01:47A	6.7	02:09P	3.3
17	Sun	08:43A	12.5	10:03P	13.7	17	Sun	02:57A	6.7	03:10P	4.0
18	Mon	10:01A	12.3	10:53P	14.4	18	Mon	04:12A	6.0	04:14P	4.4
19	Tue	11:15A	12.8	11:38P	15.5	19	Tue	05:17A	4.6	05:14P	4.4
20	Wed	-	-	12:19P	13.9	20	Wed	06:10A	2.8	06:06P	4.1
21	Thu	12:20A	16.7	01:13P	15.2	21	Thu	06:55A	0.7	06:54P	3.6
22	Fri	01:02A	18.0	02:03P	16.4	22	Fri	07:38A	-1.2	07:40P	3.1
23	Sat	01:43A	19.2	02:49P	17.5	23	Sat	08:21A	-2.9	08:26P	2.6
24	Sun	02:26A	20.2	03:36P	18.2	24	Sun	09:04A	-4.2	09:11P	2.2
25	Mon	03:11A	20.8	04:22P	18.4	25	Mon	09:49A	-5.0	09:58P	2.1
26	Tue	03:57A	20.8	05:10P	18.3	26	Tue	10:36A	-5.1	10:46P	2.2
27	Wed	04:46A	20.3	06:00P	18.0	27	Wed	11:24A	-4.5	11:38P	2.5
28	Thu	05:39A	19.2	06:53P	17.5	28	Thu	-	-	12:15P	-3.4
29	Fri	06:36A	17.8	07:48P	17.0	29	Fri	12:35A	2.9	01:08P	-1.9
30	Sat	07:40A	16.2	08:46P	16.7	30	Sat	01:39A	3.2	02:06P	-0.3
31	Sun	08:53A	14.8	09:45P	16.6	31	Sun	02:50A	3.2	03:08P	1.2

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JUNE											
HIGH TIDES						LOW TIDES					
Date	Day	A.M.		P.M.		Date	Day	A.M.		P.M.	
		Time	Feet	Time	Feet			Time	Feet	Time	Feet
1	Mon	10:12A	14.0	10:43P	16.8	1	Mon	04:05A	2.7	04:13P	2.5
2	Tue	11:30A	13.9	11:36P	17.0	2	Tue	05:16A	1.7	05:15P	3.4
3	Wed	-	-	12:39P	14.4	3	Wed	06:17A	0.6	06:12P	3.8
4	Thu	12:25A	17.4	01:36P	15.1	4	Thu	07:08A	-0.4	07:03P	4.1
5	Fri	01:09A	17.7	02:23P	15.7	5	Fri	07:52A	-1.2	07:49P	4.1
6	Sat	01:49A	18.0	03:05P	16.2	6	Sat	08:32A	-1.7	08:30P	4.0
7	Sun	02:27A	18.1	03:43P	16.5	7	Sun	09:09A	-1.9	09:10P	3.9
8	Mon	03:05A	18.2	04:20P	16.6	8	Mon	09:44A	-2.0	09:49P	3.9
9	Tue	03:42A	18.1	04:56P	16.5	9	Tue	10:20A	-1.8	10:27P	4.1
10	Wed	04:19A	17.7	05:33P	16.3	10	Wed	10:55A	-1.3	11:06P	4.3
11	Thu	04:57A	17.1	06:10P	15.9	11	Thu	11:30A	-0.7	11:46P	4.7
12	Fri	05:37A	16.3	06:48P	15.5	12	Fri	-	-	12:06P	0.2
13	Sat	06:19A	15.2	07:27P	15.1	13	Sat	12:29A	5.0	12:44P	1.2
14	Sun	07:07A	14.1	08:08P	14.9	14	Sun	01:16A	5.3	01:24P	2.3
15	Mon	08:03A	13.1	08:51P	14.9	15	Mon	02:10A	5.3	02:10P	3.4
16	Tue	09:10A	12.5	09:40P	15.2	16	Tue	03:12A	4.8	03:05P	4.5
17	Wed	10:26A	12.4	10:32P	15.8	17	Wed	04:18A	3.9	04:08P	5.2
18	Thu	11:41A	13.0	11:26P	16.6	18	Thu	05:22A	2.5	05:14P	5.4
19	Fri	-	-	12:48P	14.1	19	Fri	06:20A	0.7	06:16P	5.1
20	Sat	12:21A	17.7	01:46P	15.4	20	Sat	07:13A	-1.2	07:13P	4.3
21	Sun	01:14A	18.9	02:37P	16.8	21	Sun	08:03A	-3.0	08:06P	3.4
22	Mon	02:07A	20.0	03:25P	17.9	22	Mon	08:51A	-4.4	08:57P	2.5
23	Tue	02:58A	20.9	04:12P	18.7	23	Tue	09:38A	-5.3	09:47P	1.7
24	Wed	03:49A	21.2	04:58P	19.2	24	Wed	10:24A	-5.6	10:37P	1.2
25	Thu	04:40A	20.9	05:44P	19.3	25	Thu	11:11A	-5.1	11:29P	1.0
26	Fri	05:32A	19.9	06:30P	19.1	26	Fri	11:57A	-3.9	-	-
27	Sat	06:26A	18.4	07:17P	18.7	27	Sat	12:22A	1.1	12:44P	-2.2
28	Sun	07:23A	16.7	08:05P	18.0	28	Sun	01:19A	1.5	01:34P	-0.2
29	Mon	08:27A	14.9	08:56P	17.3	29	Mon	02:20A	1.9	02:27P	2.0
30	Tue	09:40A	13.6	09:51P	16.6	30	Tue	03:29A	2.1	03:26P	3.9

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JULY											
HIGH TIDES						LOW TIDES					
Date	Day	<u>A.M.</u>	Feet	<u>P.M.</u>	Feet	Date	Day	<u>A.M.</u>	Feet	<u>P.M.</u>	Feet
		Time		Time				Time		Time	
1	Wed	11:03A	13.0	10:48P	16.2	1	Wed	04:41A	2.0	04:31P	5.2
2	Thu	12:23P	13.2	11:47P	16.1	2	Thu	05:51A	1.6	05:39P	5.9
3	Fri	-	-	01:27P	13.9	3	Fri	06:50A	0.9	06:40P	6.0
4	Sat	12:41A	16.3	02:17P	14.7	4	Sat	07:39A	0.2	07:32P	5.6
5	Sun	01:29A	16.7	02:57P	15.5	5	Sun	08:20A	-0.5	08:16P	5.1
6	Mon	02:12A	17.3	03:32P	16.2	6	Mon	08:57A	-1.0	08:56P	4.5
7	Tue	02:51A	17.8	04:05P	16.7	7	Tue	09:31A	-1.4	09:34P	3.9
8	Wed	03:29A	18.1	04:36P	17.1	8	Wed	10:03A	-1.6	10:11P	3.6
9	Thu	04:06A	18.2	05:08P	17.3	9	Thu	10:35A	-1.5	10:47P	3.4
10	Fri	04:42A	17.9	05:39P	17.3	10	Fri	11:06A	-1.0	11:24P	3.4
11	Sat	05:19A	17.3	06:09P	17.1	11	Sat	11:38A	-0.3	-	-
12	Sun	05:58A	16.3	06:41P	16.8	12	Sun	12:02A	3.4	12:10P	0.8
13	Mon	06:39A	15.2	07:13P	16.5	13	Mon	12:42A	3.6	12:44P	2.0
14	Tue	07:28A	14.0	07:51P	16.2	14	Tue	01:26A	3.7	01:23P	3.4
15	Wed	08:28A	12.9	08:37P	16.0	15	Wed	02:20A	3.7	02:11P	4.8
16	Thu	09:45A	12.3	09:36P	16.0	16	Thu	03:26A	3.4	03:15P	6.0
17	Fri	11:13A	12.5	10:44P	16.4	17	Fri	04:41A	2.6	04:33P	6.5
18	Sat	12:33P	13.6	11:55P	17.3	18	Sat	05:54A	1.1	05:51P	6.2
19	Sun	-	-	01:35P	15.2	19	Sun	06:56A	-0.8	06:58P	5.0
20	Mon	01:00A	18.7	02:26P	16.9	20	Mon	07:50A	-2.6	07:55P	3.5
21	Tue	01:58A	20.1	03:12P	18.5	21	Tue	08:39A	-4.2	08:47P	1.9
22	Wed	02:51A	21.2	03:54P	19.7	22	Wed	09:24A	-5.1	09:36P	0.5
23	Thu	03:41A	21.8	04:36P	20.6	23	Thu	10:08A	-5.3	10:24P	-0.4
24	Fri	04:30A	21.6	05:16P	20.9	24	Fri	10:50A	-4.7	11:11P	-0.7
25	Sat	05:19A	20.6	05:57P	20.6	25	Sat	11:32A	-3.4	11:59P	-0.5
26	Sun	06:08A	19.1	06:38P	19.9	26	Sun	12:14P	-1.4	-	-
27	Mon	06:59A	17.1	07:19P	18.7	27	Mon	12:49A	0.2	12:58P	0.9
28	Tue	07:57A	15.1	08:05P	17.4	28	Tue	01:43A	1.3	01:44P	3.3
29	Wed	09:05A	13.4	08:56P	16.1	29	Wed	02:45A	2.4	02:39P	5.4
30	Thu	10:33A	12.4	10:00P	15.1	30	Thu	04:00A	3.1	03:49P	7.0
31	Fri	12:10P	12.6	11:14P	14.8	31	Fri	05:24A	3.1	05:12P	7.6

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AUGUST											
HIGH TIDES						LOW TIDES					
Date	Day	<u>A.M.</u>	Feet	<u>P.M.</u>	Feet	Date	Day	<u>A.M.</u>	Feet	<u>P.M.</u>	Feet
		Time		Time				Time		Time	
1	Sat	01:20P	13.5			1	Sat	06:36A	2.5	06:26P	7.3
2	Sun	12:23A	15.2	02:06P	14.6	2	Sun	07:28A	1.6	07:22P	6.4
3	Mon	01:18A	16.0	02:41P	15.6	3	Mon	08:07A	0.7	08:04P	5.3
4	Tue	02:01A	17.0	03:11P	16.6	4	Tue	08:40A	-0.2	08:41P	4.2
5	Wed	02:39A	18.0	03:39P	17.5	5	Wed	09:10A	-0.8	09:16P	3.2
6	Thu	03:15A	18.7	04:06P	18.2	6	Thu	09:39A	-1.1	09:50P	2.5
7	Fri	03:49A	19.0	04:33P	18.6	7	Fri	10:08A	-1.1	10:23P	2.0
8	Sat	04:24A	18.9	05:00P	18.8	8	Sat	10:37A	-0.7	10:57P	1.7
9	Sun	04:59A	18.4	05:27P	18.7	9	Sun	11:07A	0.0	11:31P	1.7
10	Mon	05:35A	17.5	05:55P	18.4	10	Mon	11:37A	1.2	-	-
11	Tue	06:15A	16.3	06:25P	17.9	11	Tue	12:07A	1.9	12:10P	2.5
12	Wed	07:00A	14.9	07:01P	17.3	12	Wed	12:48A	2.2	12:47P	4.1
13	Thu	07:59A	13.5	07:49P	16.5	13	Thu	01:39A	2.7	01:34P	5.6
14	Fri	09:20A	12.5	08:56P	15.9	14	Fri	02:46A	3.1	02:41P	7.0
15	Sat	10:59A	12.6	10:21P	16.0	15	Sat	04:11A	2.8	04:13P	7.4
16	Sun	12:24P	13.9	11:45P	17.0	16	Sun	05:37A	1.6	05:42P	6.6
17	Mon	-	-	01:23P	15.8	17	Mon	06:44A	-0.2	06:51P	4.8
18	Tue	12:55A	18.6	02:09P	17.7	18	Tue	07:37A	-2.0	07:47P	2.7
19	Wed	01:53A	20.2	02:50P	19.6	19	Wed	08:23A	-3.4	08:36P	0.6
20	Thu	02:43A	21.5	03:29P	21.0	20	Thu	09:05A	-4.2	09:21P	-1.0
21	Fri	03:31A	22.1	04:06P	21.8	21	Fri	09:45A	-4.1	10:05P	-2.0
22	Sat	04:16A	21.9	04:43P	22.0	22	Sat	10:24A	-3.3	10:49P	-2.2
23	Sun	05:01A	20.9	05:19P	21.5	23	Sun	11:03A	-1.8	11:32P	-1.6
24	Mon	05:46A	19.3	05:55P	20.4	24	Mon	11:42A	0.2	-	-
25	Tue	06:33A	17.4	06:33P	18.9	25	Tue	12:16A	-0.5	12:22P	2.4
26	Wed	07:25A	15.3	07:13P	17.1	26	Wed	01:03A	1.1	01:05P	4.7
27	Thu	08:29A	13.4	08:03P	15.4	27	Thu	01:57A	2.8	01:56P	6.8
28	Fri	10:02A	12.3	09:12P	14.1	28	Fri	03:11A	4.2	03:10P	8.3
29	Sat	11:54A	12.5	10:45P	13.7	29	Sat	04:53A	4.6	04:53P	8.6
30	Sun	-	-	01:01P	13.6	30	Sun	06:16A	3.9	06:17P	7.7
31	Mon	12:09A	14.5	01:42P	14.8	31	Mon	07:07A	2.8	07:08P	6.4

Appendix A20.—Total sockeye salmon harvest from all sources in Upper Cook Inlet, 1996–2009.

Year	Commercial				Sport ^{a,b,c}			Personal Use					Subsit./Educ.		Total
	Test				Kenai	All Other		Kas.	Kas.	Ken.					
	Drift	Set	Fishery	All	River	UCI	All	Gillnet	Dip net	Dip net	Other ^d	All	Subsist. ^e	Educ. ^e	
1996	2,205,067	1,683,855	2,424	3,891,346	205,959	16,863	222,822	9,506	11,197	102,821	22,021	145,545	259	2,405	4,262,377
1997	2,197,736	1,979,002	2,301	4,179,039	190,629	23,591	214,220	17,997	9,737	114,619	6,587	148,940	593	3,076	4,545,868
1998	599,202	620,040	5,456	1,224,698	190,159	23,477	213,636	15,975	45,161	103,847	11,598	176,581	636	3,567	1,619,118
1999	1,413,995	1,266,515	11,766	2,692,276	233,768	26,078	259,846	12,832	37,176	149,504	9,077	208,589	599	3,037	3,164,347
2000	656,427	666,055	9,450	1,331,932	261,902	32,194	294,096	14,774	23,877	98,262	12,354	149,267	442	2,933	1,778,670
2001	846,257	980,576	3,381	1,830,214	219,507	30,953	250,460	17,201	37,612	150,766	13,109	218,688	686	4,633	2,304,681
2002	1,367,251	1,405,867	37,983	2,811,101	259,829	21,770	281,599	17,980	46,769	180,028	14,846	259,623	623	3,722	3,356,668
2003	1,593,638	1,882,521	13,968	3,490,127	314,603	36,076	350,679	15,706	43,870	223,580	15,675	298,831	544	5,993	4,146,174
2004	2,528,910	2,397,310	10,677	4,936,897	317,561	28,823	346,384	25,417	48,315	262,831	13,527	350,090	484	5,237	5,639,092
2005	2,520,300	2,717,868	12,064	5,250,232	312,871	21,826	334,697	26,609	43,151	295,496	4,520	369,776	238	7,134	5,962,077
2006	784,771	1,407,959	10,698	2,203,428	203,602	24,597	228,199	28,867	56,144	127,630	3,406	216,047	408	5,444	2,653,526
2007	1,823,481	1,493,298	10,649	3,327,428	325,915	28,466	354,381	14,943	43,293	291,270	6,729	356,235	567	5,773	4,044,384
2008	983,303	1,396,832	16,957	2,397,092	254,031	29,998	284,029	23,432	54,051	234,109	6,890	318,482	450	4,761	3,004,814
2009	968,075	1,077,544	13,948	2,059,567	276,700	24,200	300,900	26,646	73,035	339,993	18,006	457,680	253	7,064	2,825,464

^a Sport harvest in the Kenai River includes late-run stock only; early-run Russian River sockeye salmon harvest is excluded.

^b Sport harvest is estimated from the annual statewide sport fish harvest survey.

^c Sport harvest in 2009 is unknown until the statewide harvest survey is finalized; these figures are estimates based on size of 2009 sockeye salmon run.

^d Specific area of harvest not identified on returned permits, other than Fish Creek dip net, which was open from 1996–2001 and 2009.

^e See Appendix B16 for individual fishery harvests.

Appendix A21.–Daily commercial harvest of razor clams, Upper Cook Inlet, 2009.

Date	Lbs	No. Diggers	Date	Lbs	No. Diggers
5/21	6,994	20	6/22	10,307	20
5/22	5,641	20	6/23	9,972	20
5/23	5,996	20	6/24	10,037	20
5/24	7,059	20	6/25	8,130	20
5/25	8,084	20	6/26	9,036	20
5/26	7,180	20	6/27	7,208	20
5/27	3,009	20	6/28	7,735	20
5/28	5,130	19	7/3	7,720	20
5/29	5,948	20	7/4	16,467	20
5/30	4,811	19	7/6	9,605	20
5/31	6,100	20	7/7	9,305	20
6/3	8,272	20	7/8	7,990	20
6/4	7,066	20	7/9	7,628	20
6/5	7,661	20	7/10	7,590	20
6/6	6,342	20	7/11	7,270	19
6/7	9,593	20	7/18	4,080	19
6/8	7,403	20	7/19	8,406	19
6/9	9,574	20	7/20	9,179	19
6/10	11,058	20	7/21	4,255	18
6/11	3,359	20	7/22	5,235	19
6/12	8,287	20	7/23	4,920	19
6/13	5,430	20	7/24	4,863	19
6/19	7,138	20	7/25	4215	19
6/20	9,452	20	7/26	2,933	19
6/21	8,434	20	7/27	2,281	19
Total for Year = 361,388 lbs					

APPENDIX B: HISTORICAL DATA

Appendix B1.—Upper Cook Inlet commercial Chinook salmon harvest by gear type and area, 1966–2009.

Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1966	392	4.6	7,329	85.8	401	4.7	422	4.9	8,544
1967	489	6.2	6,686	85.1	500	6.4	184	2.3	7,859
1968	182	4.0	3,304	72.8	579	12.8	471	10.4	4,536
1969	362	2.9	5,834	47.1	3,286	26.5	2,904	23.4	12,386
1970	356	4.3	5,368	64.4	1,152	13.8	1,460	17.5	8,336
1971	237	1.2	7,055	35.7	2,875	14.5	9,598	48.6	19,765
1972	375	2.3	8,599	53.5	2,199	13.7	4,913	30.5	16,086
1973	244	4.7	4,411	84.9	369	7.1	170	3.3	5,194
1974	422	6.4	5,571	84.5	434	6.6	169	2.6	6,596
1975	250	5.2	3,675	76.8	733	15.3	129	2.7	4,787
1976	690	6.4	8,249	75.9	1,469	13.5	457	4.2	10,865
1977	3,411	23.1	9,730	65.8	1,084	7.3	565	3.8	14,790
1978	2,072	12.0	12,468	72.1	2,093	12.1	666	3.8	17,299
1979	1,089	7.9	8,671	63.1	2,264	16.5	1,714	12.5	13,738
1980	889	6.4	9,643	69.9	2,273	16.5	993	7.2	13,798
1981	2,320	19.0	8,358	68.3	837	6.8	725	5.9	12,240
1982	1,293	6.2	13,658	65.4	3,203	15.3	2,716	13.0	20,870
1983	1,125	5.5	15,042	72.9	3,534	17.1	933	4.5	20,634
1984	1,377	13.7	6,165	61.3	1,516	15.1	1,004	10.0	10,062
1985	2,048	8.5	17,723	73.6	2,427	10.1	1,890	7.8	24,088
1986	1,834	4.7	19,824	50.5	2,108	5.4	15,488	39.5	39,254

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Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1987	4,561	11.6	21,150	53.6	1,029	2.6	12,700	32.2	39,440
1988	2,237	7.7	12,859	44.2	1,148	3.9	12,836	44.1	29,080
1989			10,914	40.8	3,092	11.6	12,731	47.6	26,737
1990	621	3.9	4,139	25.7	1,763	10.9	9,582	59.5	16,105
1991	246	1.8	4,893	36.1	1,544	11.4	6,859	50.6	13,542
1992	615	3.6	10,718	62.4	1,284	7.5	4,554	26.5	17,171
1993	765	4.1	14,079	74.6	720	3.8	3,307	17.5	18,871
1994	464	2.3	15,575	78.0	730	3.7	3,193	16.0	19,962
1995	594	3.3	12,068	67.4	1,101	6.2	4,130	23.1	17,893
1996	389	2.7	11,564	80.8	395	2.8	1,958	13.7	14,306
1997	627	4.7	11,325	85.2	207	1.6	1,133	8.5	13,292
1998	335	4.1	5,087	62.6	155	1.9	2,547	31.4	8,124
1999	575	4.0	9,463	65.8	1,533	10.7	2,812	19.6	14,383
2000	270	3.7	3,684	50.1	1,089	14.8	2,307	31.4	7,350
2001	619	6.7	6,009	64.6	856	9.2	1,811	19.5	9,295
2002	415	3.3	9,478	74.5	926	7.3	1,895	14.9	12,714
2003	1,240	6.7	14,810	80.1	770	4.2	1,670	9.0	18,490
2004	1,526	5.6	21,684	78.9	2,208	8.0	2,058	7.5	27,476
2005	1,958	7.0	22,101	78.5	739	2.6	3,373	12.0	28,171
2006	2,782	15.4	9,956	55.2	1,030	5.7	4,261	23.6	18,029
2007	912	5.2	12,288	69.7	603	3.4	3,822	21.7	17,625
2008	653	4.9	7,573	56.8	1,124	8.4	3,983	29.9	13,333
2009	859	9.8	5,587	63.9	673	7.7	1,631	18.6	8,750
1966–08 Avg ^b	1,044	6	10,187	66	1,340	9	3,294	18	15,866
1999–08 Avg	1,095	6	11,705	67	1,088	7	2,799	19	16,687

^a 1989 not used in average as the drift fleet did not fish due to the Exxon Valdez oil spill; this had an effect on all other fisheries.

^b Harvest data prior to 2009 reflect minor adjustments to historical catch database.

Appendix B2.—Upper Cook Inlet commercial sockeye salmon harvest by gear type and area, 1966–2009.

Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1966	1,103,261	60	485,330	26	132,443	7	131,080	7	1,852,114
1967	890,152	65	305,431	22	66,414	5	118,065	9	1,380,062
1968	561,737	51	317,535	29	85,049	8	140,575	13	1,104,896
1969	371,747	54	210,834	30	71,184	10	38,050	6	691,815
1970	460,690	63	142,701	19	62,723	9	66,458	9	732,572
1971	423,107	66	111,505	18	61,144	10	40,533	6	636,289
1972	506,281	58	204,599	23	83,176	9	85,755	10	879,811
1973	375,695	56	188,816	28	59,973	9	45,614	7	670,098
1974	265,771	53	136,889	28	52,962	11	41,563	8	497,185
1975	368,124	54	177,336	26	73,765	11	65,526	10	684,751
1976	1,055,786	63	476,376	29	62,338	4	69,649	4	1,664,149
1977	1,073,098	52	751,178	37	104,265	5	123,750	6	2,052,291
1978	1,803,479	69	660,797	25	105,767	4	51,378	2	2,621,421
1979	454,707	49	247,359	27	108,422	12	113,918	12	924,406
1980	770,247	49	559,812	36	137,882	9	105,647	7	1,573,588
1981	633,380	44	496,003	34	60,217	4	249,662	17	1,439,262
1982	2,103,429	65	971,423	30	66,952	2	118,060	4	3,259,864
1983	3,222,428	64	1,508,511	30	134,575	3	184,219	4	5,049,733
1984	1,235,337	59	490,273	23	162,139	8	218,965	10	2,106,714
1985	2,032,957	50	1,561,200	38	285,081	7	181,191	4	4,060,429
1986	2,837,857	59	1,658,161	35	153,714	3	141,830	3	4,791,562

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Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1987	5,638,916	60	3,454,470	36	208,036	2	164,572	2	9,465,994
1988	4,139,358	60	2,428,385	35	146,377	2	129,713	2	6,843,833
1989			4,543,492	91	186,831	4	280,801	6	5,011,124
1990	2,305,331	64	1,117,581	31	84,949	2	96,398	3	3,604,259
1991	1,118,115	51	844,156	39	99,859	5	116,201	5	2,178,331
1992	6,069,495	67	2,838,076	31	131,304	1	69,478	1	9,108,353
1993	2,558,732	54	1,941,783	41	108,181	2	146,633	3	4,755,329
1994	1,901,452	53	1,458,162	41	85,830	2	120,142	3	3,565,586
1995	1,773,873	60	961,216	33	107,640	4	109,098	4	2,951,827
1996	2,205,067	57	1,483,008	38	96,719	2	104,128	3	3,888,922
1997	2,197,736	53	1,832,824	44	48,723	1	97,455	2	4,176,738
1998	599,202	49	512,225	42	47,165	4	60,650	5	1,219,242
1999	1,413,995	53	1,092,946	41	114,454	4	59,115	2	2,680,510
2000	656,427	50	529,747	40	92,477	7	43,831	3	1,322,482
2001	846,257	46	870,019	48	59,709	3	50,848	3	1,826,833
2002	1,367,251	49	1,303,158	47	69,609	3	33,100	1	2,773,118
2003	1,593,638	46	1,746,841	50	87,193	3	48,487	1	3,476,159
2004	2,528,910	51	2,235,810	45	134,356	3	27,144	1	4,926,220
2005	2,520,300	48	2,533,841	48	157,612	3	26,415	1	5,238,168
2006	784,771	36	1,301,275	59	94,054	4	12,630	1	2,192,730
2007	1,823,481	55	1,353,407	41	122,424	4	17,467	1	3,316,779
2008	983,303	41	1,303,236	55	67,366	3	26,230	1	2,380,135
2009	968,075	47	905,678	44	131,214	6	40,652	2	2,045,619
1966–08 Avg ^b	1,608,926	55	1,066,768	35	102,243	5	92,648	5	2,870,585
1999–08 Avg	1,451,833	48	1,427,028	47	99,925	4	34,527	1	3,013,313

^a 1989 not used in average, as the drift fleet did not fish due to the Exxon Valdez oil spill; this had an effect on all other fisheries.

^b Harvest data prior to 2009 reflect minor adjustments to the historical catch database.

Appendix B3.—Upper Cook Inlet commercial coho salmon harvest by gear type and area, 1966–2009.

Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1966	80,901	27.9	68,877	23.8	59,509	20.5	80,550	27.8	289,837
1967	53,071	29.9	40,738	22.9	40,066	22.5	43,854	24.7	177,729
1968	167,383	35.8	80,828	17.3	63,301	13.5	156,648	33.5	468,160
1969	33,053	32.8	18,988	18.9	28,231	28.0	20,412	20.3	100,684
1970	110,070	40.0	30,114	10.9	52,299	19.0	82,722	30.1	275,205
1971	35,491	35.4	16,589	16.5	26,188	26.1	22,094	22.0	100,362
1972	21,577	26.7	24,673	30.5	15,300	18.9	19,346	23.9	80,896
1973	31,784	30.4	23,901	22.9	24,784	23.7	23,951	22.9	104,420
1974	75,640	37.8	36,837	18.4	40,610	20.3	47,038	23.5	200,125
1975	88,579	39.0	46,209	20.3	59,537	26.2	33,051	14.5	227,376
1976	80,712	38.7	47,873	22.9	42,243	20.2	37,835	18.1	208,663
1977	110,184	57.2	23,693	12.3	38,093	19.8	20,623	10.7	192,593
1978	76,259	34.8	34,134	15.6	61,711	28.2	47,089	21.5	219,193
1979	114,496	43.2	29,284	11.0	68,306	25.8	53,078	20.0	265,164
1980	89,510	33.0	40,281	14.8	51,527	19.0	90,098	33.2	271,416
1981	226,366	46.7	36,024	7.4	88,390	18.2	133,625	27.6	484,405
1982	416,274	52.5	108,393	13.7	182,205	23.0	85,352	10.8	792,224
1983	326,965	63.3	37,694	7.3	97,796	18.9	53,867	10.4	516,322
1984	213,423	47.4	37,166	8.3	84,618	18.8	114,786	25.5	449,993
1985	357,388	53.6	70,657	10.6	147,331	22.1	91,837	13.8	667,213
1986	506,818	66.9	76,461	10.1	85,932	11.4	88,108	11.6	757,319

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Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1987	202,506	44.8	74,923	16.6	74,930	16.6	97,062	21.9	449,421
1988	278,828	49.6	54,975	9.9	77,403	13.8	149,742	26.7	560,948
1989	743	0.2	82,333	24.1	81,004	23.9	175,738	51.8	339,818
1990	247,357	49.3	40,351	8.0	73,429	14.6	140,506	28.0	501,643
1991	175,782	41.2	30,435	7.1	87,968	20.6	132,302	31.0	426,487
1992	267,300	57.0	57,078	12.2	53,419	11.4	91,133	19.4	468,930
1993	121,829	39.7	43,098	14.0	35,661	11.6	106,294	34.6	306,882
1994	310,114	52.7	68,449	11.9	61,166	10.5	144,064	24.8	583,793
1995	241,473	54.0	44,750	10.0	71,431	16.0	89,300	20.0	446,954
1996	171,434	53.3	40,724	12.6	31,405	9.8	78,105	24.3	321,668
1997	78,662	51.6	19,668	12.9	16,705	11.0	37,369	24.5	152,404
1998	83,338	51.9	18,677	11.6	24,286	15.1	34,359	21.4	160,660
1999	64,814	51.5	11,923	9.3	17,725	14.1	31,446	25.1	125,908
2000	131,478	55.5	11,078	4.7	22,840	9.6	71,475	30.2	236,871
2001	39,418	34.8	4,246	3.7	23,719	20.9	45,928	40.5	113,311
2002	125,831	51.1	35,153	14.3	35,005	14.2	50,292	20.4	246,281
2003	52,432	51.5	10,171	10.0	15,138	14.9	24,015	23.6	101,756
2004	199,585	64.2	30,154	9.7	36,498	11.7	44,819	14.4	311,056
2005	144,753	64.4	19,543	8.7	29,502	13.1	30,859	13.7	224,657
2006	98,473	55.4	22,167	12.5	36,845	20.7	20,368	11.5	177,853
2007	108,703	61.3	23,578	13.3	23,495	13.2	21,563	12.2	177,339
2008	89,428	52.0	21,823	12.7	18,441	10.7	42,177	24.5	171,869
2009	82,096	53.6	11,435	7.5	22,050	14.4	37,629	24.6	153,210
1966–08 Avg ^b	153,559	47	38,390	13	52,976	18	67,361	22	312,285
1999–08 Avg	105,492	54	18,984	10	25,921	14	38,294	22	188,690

^a 1989 not used in average as the drift fleet did not fish due to the Exxon Valdez oil spill; this had an effect on all other fisheries.

^b Harvest data prior to 2009 reflect minor adjustments to historical catch database.

Appendix B4.—Upper Cook Inlet commercial pink salmon harvest by gear type and area, 1966–2009.

Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1966	593,654	29.6	969,624	48.3	70,507	3.5	371,960	18.5	2,005,745
1967	7,475	23.2	13,038	40.5	3,256	10.1	8,460	26.2	32,229
1968	880,512	38.7	785,887	34.5	75,755	3.3	534,839	23.5	2,276,993
1969	8,233	25.3	10,968	33.7	5,711	17.6	7,587	23.3	32,499
1970	334,737	41.1	281,067	34.5	24,763	3.0	174,193	21.4	814,760
1971	6,433	18.1	18,097	50.8	2,637	7.4	8,423	23.7	35,590
1972	115,117	18.3	403,706	64.2	18,913	3.0	90,830	14.5	628,566
1973	91,901	28.2	80,596	24.7	16,437	5.0	137,250	42.1	326,184
1974	140,432	29.0	291,408	60.2	9,014	1.9	42,876	8.9	483,730
1975	113,868	33.9	112,423	33.4	19,086	5.7	90,953	27.0	336,330
1976	599,594	47.7	479,024	38.1	30,030	2.4	148,080	11.8	1,256,728
1977	286,308	51.7	125,817	22.7	25,212	4.6	116,518	21.0	553,855
1978	934,442	55.3	372,601	22.1	54,785	3.2	326,614	19.3	1,688,442
1979	19,554	26.8	19,983	27.4	7,061	9.7	26,382	36.1	72,980
1980	964,526	54.0	299,444	16.8	47,963	2.7	474,488	26.6	1,786,421
1981	53,888	42.4	15,654	12.3	4,276	3.4	53,325	41.9	127,143
1982	270,380	34.2	432,715	54.7	14,242	1.8	73,307	9.3	790,644
1983	26,629	37.9	18,309	26.0	3,785	5.4	21,604	30.7	70,327
1984	273,565	44.3	220,895	35.8	16,708	2.7	106,284	17.2	617,452
1985	34,228	39.0	17,715	20.2	5,653	6.4	30,232	34.4	87,828
1986	615,522	47.3	530,955	40.8	15,460	1.2	139,002	10.7	1,300,939

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Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1987	38,714	35.4	47,235	43.2	5,229	4.8	18,203	16.6	109,381
1988	227,885	48.4	176,043	37.4	12,938	2.7	54,210	11.5	471,076
1989	1	0.0	37,982	56.3	5,580	8.3	23,878	35.4	67,441
1990	323,759	53.7	225,429	37.4	10,302	1.7	43,944	7.3	603,434
1991	5,791	39.5	2,670	18.2	1,049	7.2	5,153	35.1	14,663
1992	423,738	60.9	244,068	35.1	4,250	0.6	23,805	3.4	695,861
1993	46,463	46.0	41,690	41.3	2,313	2.3	10,468	10.4	100,934
1994	256,248	49.0	234,827	44.9	3,178	0.6	29,181	5.6	523,434
1995	64,632	48.4	53,420	40.0	3,810	2.9	11,713	8.8	133,575
1996	122,728	50.5	95,717	39.4	3,792	1.6	20,674	8.5	242,911
1997	29,917	42.2	32,046	45.2	4,701	6.6	4,269	6.0	70,933
1998	200,382	36.3	332,092	60.2	7,231	1.3	11,555	2.1	551,260
1999	3,552	22.0	9,355	57.8	2,674	16.5	593	3.7	16,174
2000	90,508	61.8	23,746	16.2	11,983	8.2	20,245	13.8	146,482
2001	31,218	43.0	32,998	45.5	3,988	5.5	4,355	6.0	72,559
2002	224,229	50.2	214,771	48.1	1,736	0.4	6,224	1.4	446,960
2003	30,376	62.3	16,474	33.8	375	0.8	1,564	3.2	48,789
2004	235,524	65.8	107,838	30.1	12,560	3.5	2,017	0.6	357,939
2005	31,230	64.5	13,619	28.1	2,747	5.7	823	1.7	48,419
2006	212,808	52.7	184,990	45.8	4,684	1.2	1,629	0.4	404,111
2007	67,398	45.8	69,918	47.6	6,177	4.2	3,527	2.4	147,020
2008	103,867	61.3	59,620	35.2	2,357	1.4	3,524	2.1	169,368
2009	139,676	65.2	55,845	26.1	12,246	5.7	6,554	3.1	214,321
1966–08 Avg ^b	217,666	43	183,774	37	13,794	4	77,640	15	492,873
1999–08 Avg	103,071	53	73,333	39	4,928	5	4,450	4	185,782

^a 1989 not used in average as the drift fleet did not fish due to the Exxon Valdez oil spill; this had an effect on all other fisheries.

^b Harvest data prior to 2009 reflect minor adjustments to historical catch database.

Appendix B5.—Upper Cook Inlet commercial chum salmon harvest by gear type and area, 1966–2009.

Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1966	424,972	79.8	7,461	1.4	64,725	12.1	35,598	6.7	532,756
1967	233,041	78.5	399	0.1	25,013	8.4	38,384	12.9	296,837
1968	1,002,900	90.5	1,563	0.1	44,986	4.1	58,454	5.3	1,107,903
1969	238,497	89.1	399	0.1	16,954	6.3	11,836	4.4	267,686
1970	678,448	90.4	1,228	0.2	48,591	6.5	22,507	3.0	750,774
1971	274,567	84.8	128	0.0	32,647	10.1	16,603	5.1	323,945
1972	564,726	90.2	1,727	0.3	40,179	6.4	19,782	3.2	626,414
1973	605,738	90.7	1,965	0.3	29,019	4.3	30,851	4.6	667,573
1974	344,496	86.8	506	0.1	15,346	3.9	36,492	9.2	396,840
1975	886,474	93.2	980	0.1	33,347	3.5	30,787	3.2	951,588
1976	405,769	86.5	1,484	0.3	47,882	10.2	14,045	3.0	469,180
1977	1,153,454	93.5	1,413	0.1	54,708	4.4	23,861	1.9	1,233,436
1978	489,119	85.5	4,563	0.8	40,946	7.2	37,151	6.5	571,779
1979	609,239	93.8	867	0.1	30,342	4.7	9,310	1.4	649,758
1980	339,970	87.7	2,147	0.6	28,970	7.5	16,728	4.3	387,815
1981	756,922	91.0	2,386	0.3	26,461	3.2	46,208	5.6	831,977
1982	1,348,510	94.1	4,777	0.3	36,647	2.6	43,006	3.0	1,432,940
1983	1,044,636	93.7	2,822	0.3	38,079	3.4	29,321	2.6	1,114,858
1984	568,097	83.5	3,695	0.5	34,207	5.0	74,727	11.0	680,726
1985	700,848	90.7	4,133	0.5	31,746	4.1	36,122	4.7	772,849
1986	1,012,669	89.2	7,030	0.6	39,078	3.4	76,040	6.7	1,134,817

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Year	Central District						Northern District		Total
	Drift Gillnet		Upper Subdistrict Set		Kalgin/West Side Set		Set Gillnet		
	Number ^a	%	Number ^a	%	Number ^a	%	Number ^a	%	
1987	211,745	60.7	16,605	4.8	53,558	15.4	66,901	19.2	348,809
1988	582,699	82.0	11,763	1.7	40,425	5.7	75,728	10.7	710,615
1989	72	0.1	12,326	10.1	27,705	22.7	81,948	67.1	122,051
1990	289,447	82.4	4,611	1.3	21,355	6.1	35,710	10.2	351,123
1991	215,469	76.9	2,387	0.9	22,974	8.2	39,393	14.1	280,223
1992	232,955	84.9	2,867	1.0	13,180	4.8	25,301	9.2	274,303
1993	88,826	72.4	2,977	2.4	5,566	4.5	25,401	20.7	122,770
1994	249,748	82.4	2,927	1.0	10,443	3.4	40,059	13.2	303,177
1995	468,224	88.4	3,711	0.7	13,820	2.6	43,667	8.2	529,422
1996	140,968	90.1	1,448	0.9	2,314	1.5	11,771	7.5	156,501
1997	92,163	89.4	1,222	1.2	1,770	1.7	7,881	7.6	103,036
1998	88,036	92.0	688	0.7	2,953	3.1	3,977	4.2	95,654
1999	166,612	95.5	373	0.2	3,567	2.0	3,989	2.3	174,541
2000	118,074	92.9	325	0.3	4,386	3.5	4,284	3.4	127,069
2001	75,599	89.5	248	0.3	6,445	7.6	2,202	2.6	84,494
2002	224,587	94.4	1,790	0.8	6,671	2.8	4,901	2.1	237,949
2003	106,468	88.2	1,933	1.6	7,883	6.5	4,483	3.7	120,767
2004	137,040	93.8	2,019	1.4	4,957	3.4	2,148	1.5	146,164
2005	65,671	94.2	710	1.0	2,632	3.8	727	1.0	69,740
2006	59,965	93.6	347	0.5	3,241	5.1	480	0.7	64,033
2007	74,836	96.9	521	0.7	1,275	1.7	608	0.8	77,240
2008	46,010	91.4	433	0.9	2,243	4.5	1,629	3.2	50,315
2009	77,073	92.9	494	0.6	2,339	2.8	3,080	3.7	82,986
1966–08 Avg ^b	414,720	88	2,657	1	23,608	5	26,406	6	467,390
1999–08 Avg	107,486	93	870	1	4,330	4	2,545	2	115,231

^a 1989 not used in average as the drift fleet did not fish due to the Exxon Valdez oil spill; this had an effect on all other fisheries.

^b Harvest data prior to 2009 reflect minor adjustments to historical catch database.

Appendix B6.–Upper Cook Inlet commercial salmon harvest by species, 1966–2009.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1966	8,544	1,852,114	289,837	2,005,745	532,756	4,688,996
1967	7,859	1,380,062	177,729	32,229	296,837	1,894,716
1968	4,536	1,104,896	468,160	2,276,993	1,107,903	4,962,488
1969	12,386	691,815	100,684	32,499	267,686	1,105,070
1970	8,336	732,572	275,205	814,760	750,774	2,581,647
1971	19,765	636,289	100,362	35,590	323,945	1,115,951
1972	16,086	879,811	80,896	628,566	626,414	2,231,773
1973	5,194	670,098	104,420	326,184	667,573	1,773,469
1974	6,596	497,185	200,125	483,730	396,840	1,584,476
1975	4,787	684,751	227,376	336,330	951,588	2,204,832
1976	10,865	1,664,149	208,663	1,256,728	469,180	3,609,585
1977	14,790	2,052,291	192,593	553,855	1,233,436	4,046,965
1978	17,299	2,621,421	219,193	1,688,442	571,779	5,118,134
1979	13,738	924,406	265,164	72,980	649,758	1,926,046
1980	13,798	1,573,588	271,416	1,786,421	387,815	4,033,038
1981	12,240	1,439,262	484,405	127,143	831,977	2,895,027
1982	20,870	3,259,864	792,224	790,644	1,432,940	6,296,542
1983	20,634	5,049,733	516,322	70,327	1,114,858	6,771,874
1984	10,062	2,106,714	449,993	617,452	680,726	3,864,947
1985	24,088	4,060,429	667,213	87,828	772,849	5,612,407
1986	39,254	4,791,562	757,319	1,300,939	1,134,817	8,023,891
1987	39,431	9,465,994	449,421	109,381	348,809	10,413,036
1988	29,080	6,843,833	560,948	471,076	710,615	8,615,552
1989	26,737	5,011,124	339,818	67,441	122,051	5,567,171
1990	16,105	3,604,259	501,643	603,434	351,123	5,076,564
1991	13,542	2,178,331	426,487	14,663	280,223	2,913,246
1992	17,171	9,108,353	468,930	695,861	274,303	10,564,618
1993	18,871	4,755,329	306,882	100,934	122,770	5,304,786
1994	19,954	3,565,586	583,793	523,434	303,177	4,995,944

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Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1995	17,893	2,951,827	446,954	133,575	529,422	4,079,671
1996	14,306	3,888,922	321,668	242,911	156,501	4,624,308
1997	13,292	4,176,738	152,404	70,933	103,036	4,516,403
1998	8,124	1,219,242	160,660	551,260	95,654	2,034,940
1999	14,383	2,680,510	125,908	16,174	174,541	3,011,516
2000	7,350	1,322,482	236,871	146,482	127,069	1,840,254
2001	9,295	1,826,833	113,311	72,559	84,494	2,106,492
2002	12,714	2,773,118	246,281	446,960	237,949	3,717,022
2003	18,490	3,476,159	101,756	48,789	120,767	3,765,961
2004	27,476	4,926,220	311,056	357,939	146,164	5,768,855
2005	28,171	5,238,168	224,657	48,419	69,740	5,609,155
2006	18,029	2,192,730	177,853	404,111	64,033	2,856,756
2007	17,625	3,316,779	177,339	147,020	77,240	3,736,003
2008	13,333	2,380,135	171,869	169,368	50,315	2,785,020
2009	8,750	2,045,619	153,210	214,321	82,986	2,504,886
1966–2008 Avg	16,119	2,920,365	312,926	482,979	459,359	4,191,748
1999–2008 Avg	16,687	3,013,313	188,690	185,782	115,231	3,519,703

Note: Catch statistics prior to 2009 reflect minor adjustments to harvest database.

Appendix B7.—Approximate exvessel value of Upper Cook Inlet commercial salmon harvest by species, 1960–2009.

Year	Chinook	%	Sockeye	%	Coho	%	Pink	%	Chum	%	Total
1960	\$ 140,000	5.0%	\$ 1,334,000	47.9%	\$ 307,000	11.0%	\$ 663,000	23.8%	\$ 343,000	12.3%	\$ 2,787,000
1961	\$ 100,000	4.7%	\$ 1,687,000	79.4%	\$ 118,000	5.6%	\$ 16,000	0.8%	\$ 204,000	9.6%	\$ 2,125,000
1962	\$ 100,000	2.5%	\$ 1,683,000	42.3%	\$ 342,000	8.6%	\$ 1,274,000	32.0%	\$ 582,000	14.6%	\$ 3,981,000
1963	\$ 89,000	4.6%	\$ 1,388,000	72.3%	\$ 193,000	10.1%	\$ 13,000	0.7%	\$ 236,000	12.3%	\$ 1,919,000
1964	\$ 20,000	0.5%	\$ 1,430,000	38.9%	\$ 451,000	12.3%	\$ 1,131,000	30.8%	\$ 646,000	17.6%	\$ 3,678,000
1965	\$ 50,000	2.0%	\$ 2,099,000	82.1%	\$ 109,000	4.3%	\$ 70,000	2.7%	\$ 230,000	9.0%	\$ 2,558,000
1966	\$ 50,000	1.2%	\$ 2,727,000	64.4%	\$ 295,000	7.0%	\$ 823,000	19.4%	\$ 338,000	8.0%	\$ 4,233,000
1967	\$ 49,000	1.9%	\$ 2,135,000	82.6%	\$ 187,000	7.2%	\$ 13,000	0.5%	\$ 202,000	7.8%	\$ 2,586,000
1968	\$ 30,000	0.7%	\$ 1,758,000	40.4%	\$ 515,000	11.8%	\$ 1,209,000	27.8%	\$ 843,000	19.4%	\$ 4,355,000
1969	\$ 70,000	4.0%	\$ 1,296,697	73.9%	\$ 134,003	7.6%	\$ 18,291	1.0%	\$ 236,404	13.5%	\$ 1,755,394
1970	\$ 89,382	3.0%	\$ 1,190,303	39.9%	\$ 468,179	15.7%	\$ 456,354	15.3%	\$ 780,622	26.2%	\$ 2,984,840
1971	\$ 189,504	9.2%	\$ 1,250,771	61.0%	\$ 137,815	6.7%	\$ 18,402	0.9%	\$ 454,483	22.2%	\$ 2,050,974
1972	\$ 224,396	6.3%	\$ 1,863,177	52.6%	\$ 137,315	3.9%	\$ 478,246	13.5%	\$ 840,057	23.7%	\$ 3,543,192
1973	\$ 121,156	2.0%	\$ 3,225,847	52.3%	\$ 318,950	5.2%	\$ 362,658	5.9%	\$ 2,135,025	34.6%	\$ 6,163,635
1974	\$ 209,712	3.2%	\$ 3,072,221	46.8%	\$ 843,048	12.8%	\$ 919,916	14.0%	\$ 1,517,637	23.1%	\$ 6,562,535
1975	\$ 63,990	1.0%	\$ 2,628,036	39.2%	\$ 838,859	12.5%	\$ 419,173	6.3%	\$ 2,752,555	41.1%	\$ 6,702,612
1976	\$ 274,172	2.0%	\$ 8,668,095	63.4%	\$ 819,006	6.0%	\$ 1,874,915	13.7%	\$ 2,041,225	14.9%	\$ 13,677,413
1977	\$ 523,776	2.4%	\$ 13,318,720	61.8%	\$ 932,540	4.3%	\$ 767,273	3.6%	\$ 5,995,611	27.8%	\$ 21,537,920
1978	\$ 661,375	2.0%	\$ 26,167,741	80.3%	\$ 1,380,312	4.2%	\$ 2,154,176	6.6%	\$ 2,217,510	6.8%	\$ 32,581,114
1979	\$ 616,360	4.2%	\$ 8,093,280	55.3%	\$ 1,640,277	11.2%	\$ 82,339	0.6%	\$ 4,199,765	28.7%	\$ 14,632,021
1980	\$ 414,771	3.2%	\$ 7,937,699	61.7%	\$ 891,098	6.9%	\$ 2,114,283	16.4%	\$ 1,513,960	11.8%	\$ 12,871,810
1981	\$ 424,390	2.3%	\$ 11,080,411	60.1%	\$ 2,623,598	14.2%	\$ 170,038	0.9%	\$ 4,150,158	22.5%	\$ 18,448,596
1982	\$ 763,267	2.4%	\$ 25,154,115	80.0%	\$ 4,080,570	13.0%	\$ 553,635	1.8%	\$ 886,129	2.8%	\$ 31,437,716
1983	\$ 590,730	2.0%	\$ 24,016,294	81.8%	\$ 1,601,976	5.5%	\$ 41,338	0.1%	\$ 3,109,814	10.6%	\$ 29,360,152

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Year	Chinook	%	Sockeye	%	Coho	%	Pink	%	Chum	%	Total
1984	\$ 310,899	1.8%	\$ 12,450,532	71.8%	\$ 2,039,681	11.8%	\$ 522,795	3.0%	\$ 2,011,253	11.6%	\$ 17,335,160
1985	\$ 799,318	2.3%	\$ 27,497,929	80.0%	\$ 3,359,824	9.8%	\$ 57,412	0.2%	\$ 2,644,995	7.7%	\$ 34,359,478
1986	\$ 915,189	2.0%	\$ 38,683,950	83.3%	\$ 2,909,043	6.3%	\$ 724,367	1.6%	\$ 3,197,973	6.9%	\$ 46,430,522
1987	\$ 1,609,777	1.6%	\$ 95,915,522	94.9%	\$ 2,373,254	2.3%	\$ 84,439	0.1%	\$ 1,116,165	1.1%	\$ 101,099,156
1988	\$ 1,120,885	0.9%	\$ 111,537,736	91.3%	\$ 4,738,463	3.9%	\$ 650,931	0.5%	\$ 4,129,002	3.4%	\$ 122,177,017
1989	\$ 803,494	1.4%	\$ 56,194,753	95.0%	\$ 1,674,393	2.8%	\$ 86,012	0.1%	\$ 415,535	0.7%	\$ 59,174,188
1990	\$ 436,822	1.1%	\$ 35,804,485	88.0%	\$ 2,422,214	6.0%	\$ 512,591	1.3%	\$ 1,495,827	3.7%	\$ 40,671,938
1991	\$ 348,522	2.3%	\$ 12,249,200	80.4%	\$ 1,996,049	13.1%	\$ 5,478	0.0%	\$ 643,400	4.2%	\$ 15,242,649
1992	\$ 634,466	0.6%	\$ 96,026,864	96.0%	\$ 2,261,862	2.3%	\$ 404,772	0.4%	\$ 740,294	0.7%	\$ 100,068,258
1993	\$ 617,092	2.1%	\$ 27,969,409	93.1%	\$ 1,081,175	3.6%	\$ 36,935	0.1%	\$ 322,205	1.1%	\$ 30,026,815
1994	\$ 642,291	1.9%	\$ 29,441,442	85.5%	\$ 3,297,865	9.6%	\$ 240,545	0.7%	\$ 831,121	2.4%	\$ 34,453,264
1995	\$ 474,475	2.2%	\$ 19,168,077	87.1%	\$ 1,295,353	5.9%	\$ 53,114	0.2%	\$ 1,023,926	4.7%	\$ 22,014,944
1996	\$ 402,980	1.4%	\$ 28,238,578	95.0%	\$ 800,423	2.7%	\$ 44,386	0.1%	\$ 225,751	0.8%	\$ 29,712,117
1997	\$ 365,316	1.1%	\$ 31,439,536	97.1%	\$ 434,327	1.3%	\$ 12,004	0.0%	\$ 143,244	0.4%	\$ 32,394,427
1998	\$ 181,318	2.1%	\$ 7,686,993	88.5%	\$ 497,050	5.7%	\$ 187,759	2.2%	\$ 132,025	1.5%	\$ 8,685,145
1999	\$ 337,482	1.6%	\$ 20,095,838	95.5%	\$ 329,164	1.6%	\$ 5,995	0.0%	\$ 265,026	1.3%	\$ 21,033,505
2000	\$ 183,368	2.2%	\$ 7,115,614	87.2%	\$ 626,287	7.7%	\$ 47,065	0.6%	\$ 186,385	2.3%	\$ 8,158,719
2001	\$ 169,634	2.2%	\$ 7,136,523	92.3%	\$ 297,328	3.8%	\$ 20,317	0.3%	\$ 111,093	1.4%	\$ 7,734,894
2002	\$ 326,051	2.8%	\$ 10,682,051	91.7%	\$ 329,031	2.8%	\$ 84,922	0.7%	\$ 224,148	1.9%	\$ 11,646,203
2003	\$ 358,688	2.8%	\$ 12,284,746	95.3%	\$ 132,079	1.0%	\$ 8,660	0.1%	\$ 99,850	0.8%	\$ 12,884,023
2004	\$ 676,184	3.3%	\$ 19,404,381	93.8%	\$ 416,193	2.0%	\$ 65,861	0.3%	\$ 129,794	0.6%	\$ 20,692,412
2005	\$ 692,161	2.2%	\$ 30,156,133	95.2%	\$ 708,793	2.2%	\$ 12,783	0.0%	\$ 101,123	0.3%	\$ 31,670,993
2006	\$ 617,133	4.4%	\$ 12,301,215	88.5%	\$ 679,754	4.9%	\$ 174,576	1.3%	\$ 121,343	0.9%	\$ 13,894,021
2007	\$ 629,521	2.7%	\$ 21,905,667	93.6%	\$ 683,110	2.9%	\$ 53,074	0.2%	\$ 141,156	0.6%	\$ 23,412,528
2008	\$ 544,120	3.3%	\$ 15,525,621	93.0%	\$ 482,608	2.9%	\$ 64,529	0.4%	\$ 75,774	0.5%	\$ 16,692,652
2009	\$ 266,548	1.8%	\$ 13,719,088	94.1%	\$ 399,704	2.7%	\$ 71,582	0.5%	\$ 116,144	0.8%	\$ 14,573,065

Appendix B8.—Commercial herring harvest by fishery, Upper Cook Inlet, 1973–2009.

Year	Upper Subdistrict	Chinitna Bay	Tuxedni Bay	Kalgin Isl	Total
1973	13.8	-	-	not open	13.8
1974	36.7	-	-	not open	36.7
1975	6.2	-	-	not open	6.2
1976	5.8	-	-	not open	5.8
1977	17.3	-	-	not open	17.3
1978	8.3	55.3	-	not open	63.6
1979	67.3	96.2	24.8	not open	188.3
1980	37.4	20	86.5	not open	143.9
1981	86.2	50.5	84.9	not open	221.6
1982	60.2	91.8	50.2	not open	202.2
1983	165.3	49.2	238.2	not open	452.7
1984	117.5	90.6	159	not open	367.1
1985	136.3	46.1	215.9	not open	398.4
1986	142.6	111.1	191.9	not open	445.6
1987	126.5	65.1	152.5	not open	344.1
1988	50.7	23.4	14.1	not open	88.1
1989	55.2	122.3	34.3	not open	211.8
1990	55.4	55.9	16.1	not open	127.5
1991	13.4	15.7	1.6	not open	30.7
1992	24.7	10.4	-	not open	35.2
1993	-	-	-	not open	-
1994	-	-	-	not open	-
1995	-	-	-	not open	-
1996	-	-	-	not open	-
1997	-	-	-	not open	-
1998	19.5	-	-	not open	19.4
1999	10.4	-	-	not open	10.4
2000	14.7	-	-	not open	16.3
2001	9.9	-	-	not open	10.4
2002	16.2	1.9	0	not open	18.1
2003	3.7	0	0	not open	3.7
2004	6.7	0.1	0	not open	6.8
2005	17.1	0.2	0	0	17.3
2006	14.4	0	0	0	14.4
2007	12.6	0	0	0	12.6
2008	13.5	0	0	0	13.5
2009	9.2	0	0	0	9.2

Note: For years where fisheries were closed, harvest is reported as a dash.

Appendix B9.—Commercial harvest of razor clams in Upper Cook Inlet, 1919–2009.

Year	Pounds	Year	Pounds
1919	76,963	1965	0
1920	11,952	1966	0
1921	72,000	1967	0
1922	510,432	1968	0
1923	470,280	1969	0
1924	156,768	1970	0
1925	0	1971	14,755
1926	0	1972	31,360
1927	25,248	1973	34,415
1928	0	1974	0
1929	0	1975	10,020
1930	0	1976	0
1931	No Record	1977	1,762
1932	93,840	1978	45,931
1933	No Record	1979	144,358
1934	No Record	1980	140,420
1935	No Record	1981	441,949
1936	No Record	1982	460,639
1937	8,328	1983	269,618
1938	No Record	1984	261,742
1939	No Record	1985	319,034
1940	No Record	1986	258,632
1941	0	1987	312,349
1942	0	1988	399,376
1943	0	1989	222,747
1944	0	1990	323,602
1945	15,000	1991	201,320
1946	11,424	1992	296,727
1947	11,976	1993	310,481
1948	2,160	1994	355,165
1949	9,672	1995	248,358
1950	304,073	1996	355,448
1951	112,320	1997	366,532
1952	0	1998	371,877
1953	0	1999	352,910
1954	0	2000	369,397
1955	0	2001	348,917
1956	0	2002	338,938
1957	0	2003	411,403
1958	0	2004	419,697
1959	0	2005	371,395
1960	372,872	2006	368,953
1961	277,830	2007	283,085
1962	195,650	2008	390,999
1963	0	2009	361,388
1964	0		

Appendix B10.—Enumeration goals and counts of sockeye salmon in selected streams of Upper Cook Inlet, 1978–2009.

Year	Kenai River		Kasilof River		Fish Creek	
	Enumeration Goal	Enumeration Estimate ^{a,f}	Enumeration Goal	Enumeration Estimate ^{a,f}	Enumeration Goal	Enumeration Estimate ^b
1978	350,000-500,000	398,900	75,000-150,000	116,600	0	3,555
1979	350,000-500,000	285,020	75,000-150,000	152,179	0	68,739
1980	350,000-500,000	464,038	75,000-150,000	184,260	0	62,828
1981	350,000-500,000	407,639	75,000-150,000	256,625	0	50,479
1982	350,000-500,000	619,831	75,000-150,000	180,239	50,000	28,164
1983	350,000-500,000	630,340	75,000-150,000	210,271	50,000	118,797
1984	350,000-500,000	344,571	75,000-150,000	231,685	50,000	192,352
1985	350,000-500,000	502,820	75,000-150,000	505,049	50,000	68,577
1986	350,000-500,000	501,157	75,000-150,000	275,963	50,000	29,800
1987	400,000-700,000	1,596,871	150,000-250,000	249,250	50,000	91,215
1988	400,000-700,000	1,021,469	150,000-250,000	204,000	50,000	71,603
1989	400,000-700,000	1,599,959	150,000-250,000	158,206	50,000	67,224
1990	400,000-700,000	659,520	150,000-250,000	144,289	50,000	50,000
1991	400,000-700,000	647,597	150,000-250,000	238,269	50,000	50,500
1992	400,000-700,000	994,798	150,000-250,000	184,178	50,000	71,385
1993	400,000-700,000	813,617	150,000-250,000	149,939	50,000	117,619
1994	400,000-700,000	1,003,446	150,000-250,000	205,117	50,000	95,107
1995	450,000-700,000	630,447	150,000-250,000	204,935	50,000	115,000
1996	550,000-800,000	797,847	150,000-250,000	249,944	50,000	63,160
1997	550,000-825,000	1,064,818	150,000-250,000	266,025	50,000	54,656
1998	550,000-850,000	767,558	150,000-250,000	273,213	50,000	22,853
1999	750,000-950,000	803,379	150,000-250,000	312,587	50,000	26,667
2000	600,000-850,000	624,578	150,000-250,000	256,053	50,000	19,533
2001	600,000-850,000	650,036	150,000-250,000	307,570	50,000	43,469
2002	750,000-950,000	957,924	150,000-250,000	226,682	20,000 - 70,000	90,483
2003	750,000-950,000	1,181,309	150,000-250,000	359,633	20,000 - 70,000	92,298
2004	850,000-1,100,000	1,385,981	150,000-250,000	577,581	20,000 - 70,000	22,157
2005	850,000-1,100,000	1,376,452	150,000-250,000	348,012	20,000 - 70,000	14,215
2006	750,000-950,000	1,499,692	150,000-250,000	368,092	20,000 - 70,000	32,566
2007	750,000-950,000	867,572	150,000-250,000	336,866	20,000 - 70,000	27,948
2008	650,000-850,000	614,946	150,000-250,000	301,469	20,000 - 70,000	19,339
2009	650,000-850,000	745,170	150,000-250,000	297,125	20,000 - 70,000	83,477

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Year	Yentna River		Crescent River		Packers Creek	
	Enumeration Goal	Enumeration Estimate ^{a,f}	Enumeration Goal	Enumeration Estimate ^{a,f}	Enumeration Goal	Enumeration Estimate ^{b,g}
1978	100,000		0	N/C	0	N/C
1979	100,000		50,000	86,654	0	N/C
1980	100,000		50,000	90,863	0	16,477
1981	100,000	139,401	50,000	41,213	0	13,024
1982	100,000	113,847	50,000	58,957	0	15,687
1983	100,000	104,414	50,000	92,122	0	18,403
1984	100,000	149,375	50,000	118,345	0	30,684
1985	100,000	107,124	50,000	128,628	0	36,850
1986	100,000-150,000	92,076	50,000	20,385	0	29,604
1987	100,000-150,000	66,054	50,000-100,000	120,219	0	35,401
1988	100,000-150,000	52,330	50,000-100,000	57,716	15,000-30,000	18,607
1989	100,000-150,000	96,269	50,000-100,000	71,064	15,000-30,000	22,304
1990	100,000-150,000	140,290	50,000-100,000	52,238	15,000-30,000	31,868
1991	100,000-150,000	109,632	50,000-100,000	44,578	15,000-30,000	41,275
1992	100,000-150,000	66,054	50,000-100,000	58,229	15,000-30,000	28,361
1993	100,000-150,000	141,694	50,000-100,000	37,556	15,000-30,000	40,869
1994	100,000-150,000	128,032	50,000-100,000	30,355	15,000-30,000	30,788
1995	100,000-150,000	121,479	50,000-100,000	52,311	15,000-30,000	29,473
1996	100,000-150,000	90,781	50,000-100,000	28,729	15,000-30,000	19,095
1997	100,000-150,000	157,822	50,000-100,000	70,768	15,000-30,000	33,846
1998	100,000-150,000	119,623	50,000-100,000	62,257	15,000-30,000	17,732
1999	100,000-150,000	99,029	25,000-50,000	66,519	15,000-30,000	25,648
2000	100,000-150,000	133,094	25,000-50,000	56,599	15,000-30,000	20,151
2001	100,000-150,000	83,532	25,000-50,000	78,081	15,000-30,000	no count
2002	90,000-160,000	78,591	25,000-50,000	62,833	15,000-30,000	no count
2003	90,000-160,000	180,813	25,000-50,000	122,457	15,000-30,000	no count
2004	90,000-160,000	71,281	25,000-50,000	103,201	15,000-30,000	no count
2005	75,000-180,000	36,921	30,000-70,000	125,623	15,000-30,000	22,000
2006	90,000-160,000	92,896	30,000-70,000	92,533	15,000-30,000	no count
2007	90,000-160,000	79,901	30,000-70,000	79,406	15,000-30,000	46,637
2008	90,000-160,000	90,146	30,000-70,000	62,030	15,000-30,000	25,247
2009	ND ^h	ND ^h	30,000-70,000	no count	15,000-30,000	16,473

^a Derived from sonar counters unless otherwise noted.

^b Weir counts.

^c Yentna River escapement goal only.

^d Combined counts from weirs on Bear and Glacier Flat Creeks and surveys of remaining spawning streams; sonar count was 151,856.

^e Counts through 16 July only.

^f Enumeration estimates prior to 2007 reflect minor adjustments to the escapement database.

^g Escapement estimate of all salmon via remote camera; an unknown number of salmon escaped into the lake after the camera was removed.

^h Yentna River SEG replaced with lake goals at Judd, Chelatna, and Larson Lakes.

Appendix B11.—Average price paid for commercially harvested salmon, Upper Cook Inlet, 1969–2009.

Year	Chinook	Sockeye	Coho	Pink	Chum
1970	0.40	0.28	0.25	0.14	0.14
1971	0.37	0.30	0.21	0.15	0.15
1972	0.47	0.34	0.27	0.19	0.20
1973	0.62	0.65	0.50	0.30	0.42
1974	0.88	0.91	0.66	0.46	0.53
1975	0.54	0.63	0.54	0.35	0.41
1976	0.92	0.76	0.61	0.37	0.54
1977	1.26	0.86	0.72	0.38	0.61
1978	1.16	1.32	0.99	0.34	0.51
1979	1.63	1.41	0.98	0.34	0.88
1980	1.15	0.85	0.57	0.34	0.53
1981	1.46	1.20	0.83	0.38	0.65
1982	1.27	1.10	0.72	0.18	0.49
1983	0.97	0.74	0.45	0.18	0.36
1984	1.08	1.00	0.64	0.21	0.39
1985	1.20	1.20	0.70	0.20	0.45
1986	0.90	1.40	0.60	0.15	0.38
1987	1.40	1.50	0.80	0.22	0.45
1988	1.30	2.47	1.20	0.37	0.76
1989	1.25	1.70	0.75	0.40	0.47
1990	1.20	1.55	0.75	0.25	0.60
1991	1.20	1.00	0.77	0.12	0.35
1992	1.50	1.60	0.75	0.15	0.40
1993	1.20	1.00	0.60	0.12	0.45
1994	1.00	1.45	0.80	0.12	0.40
1995	1.00	1.15	0.45	0.12	0.27
1996	1.00	1.15	0.40	0.05	0.19
1997	1.00	1.15	0.45	0.05	0.19
1998	1.00	1.15	0.45	0.09	0.19
1999	1.00	1.30	0.45	0.12	0.19
2000	1.10	0.85	0.40	0.09	0.19
2001	1.00	0.65	0.40	0.08	0.19
2002	1.15	0.60	0.20	0.05	0.12
2003	0.95	0.60	0.20	0.05	0.12
2004	1.00	0.65	0.20	0.05	0.12
2005	1.00	0.95	0.50	0.08	0.20
2006	1.75	1.10	0.60	0.10	0.25
2007	1.75	1.05	0.60	0.10	0.25
2008	1.75	1.10	0.40	0.10	0.20
2009	1.75	1.10	0.40	0.10	0.20

Note: Price is expressed as dollars per pound. Data source: 1969–1983: Commercial Fisheries Entry Commission; 1984–2009: random fish ticket averages, which do not include bonuses or postseason adjustments.

Appendix B12.—Average weight (pounds) of commercially harvested salmon, Upper Cook Inlet, 1969–2009.

Year	Chinook	Sockeye	Coho	Pink	Chum
1969	17.1	6.7	7.0	3.9	7.3
1970	26.8	5.8	6.8	4.0	7.2
1971	25.9	6.6	6.5	3.4	9.3
1972	29.7	6.2	6.3	4.0	6.7
1973	37.6	7.4	6.1	3.7	7.6
1974	36.1	6.8	6.4	4.1	7.2
1975	24.8	6.1	6.8	3.6	7.1
1976	27.4	6.9	6.4	4.0	8.1
1977	28.1	7.6	6.7	3.7	8.0
1978	33.0	7.6	6.4	3.8	7.6
1979	27.5	6.2	6.3	3.3	7.3
1980	26.1	5.9	5.8	3.5	7.3
1981	23.8	6.4	6.5	3.5	7.7
1982	28.8	7.0	7.1	3.9	8.2
1983	29.5	6.4	6.9	3.3	7.8
1984	28.6	5.9	7.1	4.0	7.6
1985	27.7	5.6	7.2	3.3	7.6
1986	25.9	5.8	6.4	3.7	7.4
1987	29.0	6.7	6.6	3.5	7.1
1988	29.7	6.6	7.1	3.7	7.7
1989	24.0	6.6	6.6	3.2	7.2
1990	22.6	6.4	6.5	3.4	7.1
1991	21.5	5.6	6.1	3.1	6.6
1992	24.6	6.6	6.4	3.9	6.8
1993	27.5	5.9	5.9	3.1	5.8
1994	31.6	5.7	7.1	3.9	6.9
1995	26.6	5.7	6.4	3.3	7.2
1996	28.3	6.3	6.2	3.7	7.6
1997	27.6	6.6	6.3	3.4	7.3
1998	22.8	5.5	6.9	3.8	7.3
1999	23.9	5.8	5.8	3.1	8.0
2000	22.7	6.3	6.6	3.6	7.7
2001	18.3	6.0	6.6	3.5	6.9
2002	22.3	6.4	6.7	3.8	7.9
2003	20.4	5.9	6.5	3.6	6.9
2004	24.6	6.1	6.7	3.7	7.4
2005	24.6	6.1	6.3	3.3	7.3
2006	19.6	5.1	6.4	4.3	7.6
2007	20.4	6.3	6.4	3.6	7.3
2008	23.3	5.9	7.0	3.8	7.5
1969–2008 Avg	26.0	6.3	6.5	3.6	7.4
2009	17.4	6.1	6.5	3.3	7.0

Note: Total poundage divided by numbers of fish from fish ticket totals.

Appendix B13.—Registered units of gillnet fishing effort by gear type in Cook Inlet, 1970–2009.

Year	DRIFT GILLNET			SET GILLNET			Total
	Resident	Non-Resident	Subtotal	Resident	Non-Resident	Subtotal	
1970	537	220	757	707	65	772	1,529
1971	519	191	710	693	38	731	1,441
1972	419	152	571	672	35	707	1,278
1973	516	146	662	632	43	675	1,337
1974	436	149	585	698	54	752	1,337
1975	539	245	784	695	63	758	1,542
1976	410	186	596	675	44	719	1,315
1977	387	188	575	690	43	733	1,308
1978	401	190	591	701	46	747	1,338
1979	410	189	599	705	44	749	1,348
1980	407	190	597	699	48	747	1,344
1981	412	186	598	687	60	747	1,345
1982	413	178	591	695	53	748	1,339
1983	415	172	587	684	61	745	1,332
1984	423	165	588	670	74	744	1,332
1985	418	173	591	669	76	745	1,336
1986	412	176	588	665	78	743	1,331
1987	415	171	586	662	81	743	1,329
1988	421	164	585	660	83	743	1,328
1989	415	170	585	645	98	743	1,328
1990	412	173	585	644	99	743	1,328
1991	412	172	584	642	103	745	1,329
1992	404	179	583	636	109	745	1,328
1993	398	185	583	633	112	745	1,328
1994	395	187	582	628	117	745	1,327
1995	393	189	582	622	123	745	1,327
1996	392	190	582	621	124	745	1,327
1997	392	189	581	621	124	745	1,326
1998	393	186	579	621	124	745	1,324
1999	390	185	575	621	124	745	1,320
2000	394	182	576	621	124	745	1,321
2001	395	179	574	625	119	744	1,318
2002	396	176	572	620	123	743	1,315
2003	400	172	572	617	125	742	1,314
2004	402	169	571	617	122	739	1,310
2005	404	167	571	609	128	737	1,308
2006	400	170	570	614	124	738	1,308
2007	399	172	571	609	129	738	1,309
2008	405	166	571	613	125	738	1,309
2009	403	167	570	609	129	738	1,308

Source: 1966–1974 the department unpublished reports; 1975–2009 Commercial Fisheries Entry Commission.
<http://www.cfec.state.ak.us/pstatus/14052009.htm>

Appendix B14.—Forecast and projected commercial harvests of salmon by species, Upper Cook Inlet, 1985–2009.

Year	Sockeye			Coho			Pink			Chum			Chinook		
	Forecast ^a	Actual ^{b,c}	Error	Projected	Actual ^{c,d}	Error	Projected	Actual ^{c,d}	Error	Projected	Actual ^{c,d}	Error	Projected	Actual ^{c,d}	Error
1985	3,700,000	4,248,506	15%	250,000	667,213	167%	112,500	87,828	-22%	700,000	772,849	10%	17,500	24,088	38%
1986	4,200,000	4,981,255	14%	450,000	757,319	68%	1,250,000	1,300,939	4%	900,000	1,134,817	26%	32,500	39,254	21%
1987	4,800,000	9,859,418	98%	500,000	449,421	-10%	150,000	109,381	-27%	1,000,000	348,809	-65%	30,000	39,440	32%
1988	5,300,000	7,087,976	29%	400,000	560,948	40%	400,000	471,076	17%	800,000	710,615	-11%	35,000	29,080	-17%
1989	2,500,000	5,443,946	100%	400,000	339,818	-15%	100,000	67,441	-33%	800,000	122,051	-85%	30,000	26,737	-11%
1990	4,300,000	3,822,864	-16%	250,000	501,643	101%	600,000	603,434	1%	400,000	351,123	-12%	25,000	16,105	-36%
1991	3,200,000	2,472,589	-32%	400,000	426,487	7%	90,000	14,663	-84%	500,000	280,223	-44%	20,000	13,542	-32%
1992	3,600,000	9,502,392	153%	400,000	468,930	17%	400,000	695,861	74%	350,000	274,303	-22%	20,000	17,171	-14%
1993	2,500,000	5,042,799	90%	450,000	306,882	-32%	25,000	100,934	304%	350,000	122,770	-65%	15,000	18,871	26%
1994	2,000,000	3,826,508	78%	400,000	583,793	46%	600,000	523,434	-13%	250,000	303,177	21%	15,000	19,962	33%
1995	2,700,000	3,224,087	9%	400,000	446,954	12%	100,000	133,575	34%	250,000	529,422	112%	15,000	17,893	19%
1996	3,300,000	4,312,193	18%	400,000	321,668	-20%	600,000	242,911	-60%	350,000	156,501	-55%	15,000	14,306	-5%
1997	5,300,000	4,565,608	-21%	400,000	152,404	-62%	100,000	70,933	-29%	250,000	103,036	-59%	15,000	13,292	-11%
1998	2,500,000	1,626,594	-51%	300,000	160,660	-46%	300,000	551,260	84%	200,000	95,654	-52%	17,000	8,124	-52%
1999	2,000,000	3,179,342	59%	300,000	125,908	-58%	75,000	16,174	-78%	200,000	174,541	-13%	16,000	14,383	-10%
2000	3,000,000	1,786,241	-40%	150,000	236,871	58%	500,000	146,482	-71%	200,000	127,069	-36%	15,000	7,350	-51%
2001	2,700,000	2,312,491	-14%	300,000	113,311	-62%	50,000	72,559	45%	250,000	84,494	-66%	13,000	9,295	-29%
2002	2,200,000	3,369,760	53%	160,000	246,281	54%	170,000	446,960	163%	120,000	237,949	98%	10,000	12,714	27%
2003	2,400,000	4,161,766	73%	170,000	101,756	-40%	80,000	48,789	-39%	140,000	120,767	-14%	10,000	18,490	85%
2004	3,700,000	5,641,384	52%	160,000	311,056	94%	380,000	357,939	-6%	150,000	146,164	-3%	10,000	27,476	175%
2005	4,100,000	5,962,869	45%	200,000	224,657	12%	70,000	48,419	-31%	140,000	69,740	-50%	10,000	28,171	182%
2006	2,100,000	2,660,384	27%	200,000	177,853	-11%	350,000	404,111	15%	140,000	64,033	-54%	20,000	18,029	-10%
2007	3,300,000	4,048,904	23%	210,000	177,339	-16%	50,000	147,020	194%	130,000	77,240	-41%	20,000	17,625	-12%
2008	3,900,000	3,005,271	-23%	200,000	171,869	-14%	380,000	169,368	-55%	100,000	50,315	-50%	20,000	13,333	-33%
2009	3,000,000	2,713,882	-10%	210,000	153,210	-27%	70,000	214,321	206%	80,000	82,986	4%	20,000	8,750	-56%
Avg.	3,292,000	4,349,161	29%	306,400	327,370	11%	280,100	281,832	24%	350,000	261,626	-21%	18,640	18,939	10%

^a Harvest forecasts have typically been prepared using average return per spawner values, parent-year escapements and average marine maturity schedules or time series modeling tempered by available juvenile production data or combinations of these data sets.

^b Sockeye salmon harvest estimates include, commercial, sport, personal use, and educational fisheries.

^c Actual harvests prior to 2009 reflect minor adjustments to the harvest database.

^d Harvest projections are prepared using subjective estimates of parent-year escapements, gross trends in harvest, and expected intensity of fishery.

Appendix B15.—Upper Cook Inlet subsistence fisheries salmon harvest, 1980–2009.

Tyonek Subsistence Fishery								
Year	No. of Permits		Chinook	Sockeye	Coho	Pink	Chum	Total
	Issued	Returned						
1980	67	NA	1,757	235	0	0	0	1,992
1981	70	NA	2,002	269	64	32	15	2,382
1982	69	NA	1,590	310	113	14	4	2,031
1983	75	NA	2,665	187	59	0	6	2,917
1984	75	NA	2,200	266	79	3	23	2,571
1985	76	NA	1,472	164	91	0	10	1,737
1986	65	NA	1,676	203	223	50	46	2,198
1987	64	61	1,610	166	149	10	24	1,959
1988	47	42	1,587	91	253	8	12	1,951
1989	49	47	1,250	85	115	0	1	1,451
1990	42	37	781	66	352	20	12	1,231
1991	57	54	902	26	58	0	0	986
1992	57	44	907	75	234	7	19	1,242
1993	62	54	1,370	57	77	19	17	1,540
1994	58	49	770	85	101	0	22	978
1995	70	55	1,317	45	153	0	15	1,530
1996	73	49	1,039	68	137	21	7	1,272
1997	70	42	639	101	137	0	8	885
1998	74	49	978	163	64	1	2	1,208
1999	77	54	1,230	144	94	32	11	1,511
2000	60	59	1,157	63	87	6	0	1,313
2001	84	58	976	172	49	4	6	1,207
2002	101	71	1,080	209	115	9	4	1,417
2003	87	74	1,183	111	44	7	10	1,355
2004	97	75	1,345	93	130	0	0	1,568
2005	78	66	982	61	139	0	2	1,184
2006	82	55	943	20	14	0	1	978
2007	84	67	1,281	200	123	3	2	1,609
2008	94	76	1,509	140	196	15	10	1,870
2009	?	?	573	102	237	1	2	915

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Yentna Subsistence Fishery								
Year	No. of Permits		Chinook	Sockeye	Coho	Pink	Chum	Total
	Issued	Returned						
Personal Use								
1996	NR	14	0	191	36	88	40	355
1997	NR	21	0	492	61	21	8	582
Subsistence								
1998	28	21	0	473	147	33	20	673
1999	NR	21	0	455	43	15	11	524
2000	NR	20	0	379	92	4	7	482
2001	NR	16	0	514	47	9	4	574
2002	NR	25	0	414	116	14	28	572
2003	NR	15	0	433	76	2	13	524
2004	NR	22	0	391	132	0	2	525
2005	NR	21	0	177	42	24	25	268
2006	26	23	0	388	178	15	27	608
2007	22	22	0	367	66	17	18	468
2008	16	16	0	310	57	23	7	397
2009	17	16	0	253	14	0	6	273

Appendix B16.—Upper Cook Inlet educational fisheries salmon harvest, 1994–2009.

Year	Fishery	Chinook	Sockeye	Coho	Pink	Chum	Total
1994	Kenaitze	57	1,907	829	134		2,927
	NTC			119			119
	NND						0
	Knik						29
	Eklutna						172
	Total	57	1,907	948	134	0	3,247
1995	Kenaitze	40	1,498	868	35		2,441
	NTC			85			85
	NND						0
	Knik	5	21	1	0	1	28
	Eklutna	14	55	37	6	42	154
	Total	59	1,574	991	41	43	2,708
1996	Kenaitze	105	2,242	592	211		3,150
	NTC			56			56
	NND						0
	Knik	5	163	45	3	62	278
	Eklutna						0
	Total	110	2,405	693	214	62	3,484
1997	Kenaitze	142	2,410	191	5		2,748
	NTC	94	474	99	55		722
	NND						0
	Knik	19	153	34	0	15	221
	Eklutna	7	39	14	16	7	83
	Total	262	3,076	338	76	22	3,774
1998	Kenaitze	133	2,621	638	58		3,450
	NTC	67	506	95	57		725
	NND	52	139	110	20		321
	Knik	31	186	153	0	85	455
	Eklutna	32	104	116	6	51	309
	Tyonek	0	11	41	3	1	56
	Total	315	3,567	1,153	144	137	5,316

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Year	Fishery	Chinook	Sockeye	Coho	Pink	Chum	Total
1999	Kenaitze	118	1,944	530	5	0	2,597
	NTC	109	442	84	6	0	641
	NND	56	304	76	17	0	453
	Knik	42	177	120	0	55	394
	Eklutna	11	80	25	3	20	139
	Tyonek	0	100	0	0	0	100
	Total	336	3,047	835	31	75	4,324
2000	Kenaitze	130	2,088	656	617	0	3,491
	NTC	40	423	82	48	0	593
	NND	50	202	97	15	0	364
	Knik	65	34	63	0	18	180
	Eklutna	17	76	85	21	51	250
	Tyonek	0	97	0	0	0	97
	Total	302	2,920	983	701	69	4,975
2001	Kenaitze	204	3,441	572	107	0	4,324
	NTC	75	760	123	42	0	1,000
	NND	74	309	110	17	0	510
	Knik	32	71	34	0	0	137
	Eklutna	58	52	95	56	34	295
	Tyonek	0	0	0	0	0	0
	Total	443	4,633	934	222	34	6,266
2002	Kenaitze	70	2,889	921	482	0	4,362
	NTC	65	339	106	52	0	562
	NND	65	138	95	11	0	309
	Knik	55	136	99	5	36	331
	Eklutna	58	220	156	40	76	550
	Tyonek	0	0	0	0	0	0
	Total	313	3,722	1,377	590	112	6,114
2003	Kenaitze	151	4,651	439	63		5,304
	NTC	87	426	100	15		628
	NND	69	94	77	13		253
	Knik	34	654	87	3	45	823
	Eklutna	69	160	49	14	21	313
	Tyonek	0	0	0	0	0	0
	Total	410	5,985	752	108	66	7,321

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Year	Fishery	Chinook	Sockeye	Coho	Pink	Chum	Total
2004	Kenaitze	10	4,113	765	417		5,305
	NTC	73	395	83	0		551
	NND	78	199	79	14		370
	NES	1	77	0	9		87
	Knik	105	142	207	20	29	503
	Eklutna	50	311	297	4	71	733
	Tyonek	0	0	0	0	0	0
	Total	317	5,237	1,431	464	100	7,549
2005	Kenaitze	100	6,317	490	12	0	6,919
	NTC	70	264	83	0	0	417
	NND	88	84	78	15	0	265
	NES	0	5	0	0	0	5
	Knik	25	200	80	9	16	330
	Eklutna	72	166	242	8	29	517
	Tyonek						0
	Big Lake	61	98	99	56	34	348
	Total	416	7,134	1,072	100	79	8,801
2006	Kenaitze	85	4,380	223	702	0	5,390
	NTC	75	550	100	0	0	725
	NND	64	55	99	10	0	228
	NES	0	0	0	0	0	0
	Knik	24	197	75	12	7	315
	Eklutna	43	59	199	11	7	319
	Tyonek	0	0	0	0	0	0
	Big Lake	8	68	12	1	3	92
	Intertribal	12	135	95	85	21	348
	Total	311	5,444	803	821	38	7,417
2007	Kenaitze	25	3,941	543	119		4,628
	NTC	300	1,363	483	2	0	2,148
	NND	65	210	102	12	0	389
	NES	0	0	0	0	0	0
	APVFW	0	77	76	0	0	153
	Knik	19	7	75		16	117
	Eklutna						0
	Tyonek	0	0	0	0	0	0
	Big Lake	17	100	46	14		177
	Intertribal						0
	O'Brien	49	104	126	8	4	291
	Total	475	5,773	1,428	156	20	7,903

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Year	Fishery	Chinook	Sockeye	Coho	Pink	Chum	Total
2008	Kenaitze	58	3,374	525	503	0	4,460
	NTC	199	857	200	248	0	1,504
	NND	69	192	150	69	0	480
	NES	0	0	0	0	0	0
	APVFW	1	106	79	15	0	201
	Kasilof H.A.	3	20	42	12	0	77
	Knik	12	79	70			161
	Eklutna	16	19	178	3	0	216
	Tyonek	2					2
	Big Lake	20	9	62	0	6	97
	Intertribal	0	0	0	0	0	0
	O'Brien	8	82	105	6	0	201
	Fish Creek	8	23	200	0	17	130
	Total	396	4,761	1,611	856	23	7,529

Year	Fishery	Chinook	Sockeye	Coho	Pink	Chum	Total
2009	Kenaitze	53	5,683	769	63	0	6,568
	NTC	32	788	454 ^a	123	0	1,397
	NND	20	276	56	34	0	386
	NES	0	0	0	0	0	0
	APVFW	0	103	75	6	0	184
	Kasilof H.A.	4	61	32	0	0	97
	Knik	0	66	79	1	8	154
	Big Lake	0	35	70	4	1	110
	Eklutna	0	135	221	20	23	399
	Tyonek	3	0	0	0	0	3
	O'Brien	10	43	30	12	4	99
	Total	122	7,190	1,332	263	36	9,397

Note: Harvest data include both early and late-run Kenai River Chinook and sockeye salmon.

^a 254 coho salmon were harvested from the Kasilof River saltwater area.

Appendix B17.—Effort and harvest in Upper Cook Inlet personal use salmon fisheries, 1996–2009.

Kasilof River Dip Net															
Year	Days	Days Fished		Sockeye		Chinook		Coho		Pink		Chum		Total	
	Open	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE
1996	27	1,300	23	11,197	127	50	1	334	18	103	2	17	0	11,701	130
1997	27	1,091	32	9,737	150	35	2	90	3	19	2	19	1	9,900	153
1998	27	3,421	33	45,161	525	134	3	731	18	610	25	74	32	46,710	528
1999	27	3,611	43	37,176	507	127	5	286	50	264	12	52	8	37,905	511
2000	27	2,622	36	23,877	403	134	7	1,004	16	841	39	34	0	25,890	407
2001	27	3,382	37	37,612	505	138	6	766	25	307	14	23	0	38,846	511
2002	44	4,020	38	46,769	530	106	6	1,197	59	1,862	73	139	7	50,073	553
2003	44	3,874	28	43,870	440	57	4	592	49	286	21	30	1	44,835	447
2004	44	4,432	19	48,315	259	44	3	668	21	396	15	90	5	49,513	263
2005	44	4,500	9	43,151	100	16	1	538	16	658	12	102	2	44,465	103
2006	44	5,763	10	56,144	113	55	1	1,057	15	992	8	105	4	58,353	117
2007	44	4,600	9	43,293	105	35	1	487	8	383	6	136	2	44,334	106
2008	44	5,493	13	54,051	153	46	3	509	11	787	10	143	4	55,536	154
2009	44	7,571	20	73,035	246	34	1	1,441	30	1,274	19	173	3	75,957	248
Min.	27	1,091		9,737		16		90		19		17		9,900	
Mean	37	3,977		40,956		72		693		627		81		42,430	
Max.	44	7,571		73,035		138		1,441		1,862		173		75,957	

Kasilof River Gillnet															
Year	Days	Days Fished		Sockeye		Chinook		Coho		Pink		Chum		Total	
	Open	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE
1996	5	582	16	9,506	156	46	3	0	0	8	0	1	0	9,561	157
1997	5	815	26	17,997	231	65	2	1	0	102	7	3	1	18,168	233
1998	5	1,075	24	15,975	425	126	7	0	0	15	4	12	10	16,128	426
1999	10	1,287	39	12,832	371	442	27	25	2	10	0	10	0	13,319	374
2000	13	1,252	23	14,774	275	514	15	9	0	17	2	10	0	15,324	276
2001	8	1,001	20	17,201	394	174	6	6	0	11	0	7	5	17,399	397
2002	10	1,025	16	17,980	274	192	5	12	0	30	2	13	4	18,227	277
2003	10	1,206	17	15,706	277	400	13	107	0	9	0	4	0	16,226	284
2004	10	1,272	10	25,417	203	163	4	58	13	6	1	0	0	25,644	205
2005	11	1,506	6	26,609	104	87	1	326	5	16	1	1	0	27,039	104
2006	10	1,724	5	28,867	91	287	2	420	16	11	0	6	0	29,591	94
2007	10	1,569	7	14,943	66	343	3	68	4	2	0	0	0	15,356	66
2008	10	1,533	7	23,432	107	151	2	65	3	35	4	23	3	23,706	107
2009	10	1,761	9	26,646	167	127	2	165	0	14	1	11	2	26,963	167
Min.	5	582		9,506		46		0		2		0		9,561	
Mean	9	1,258		19,135		223		90		20		7		19,475	
Max.	13	1,761		28,867		514		420		102		23		29,591	

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Kenai River Dip Net															
Year	Days	Days Fished		Sockeye		Chinook		Coho		Pink		Chum		Total	
	Open	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE
1996	27	10,503	60	102,821	367	295	5	1,932	29	2,404	33	175	10	107,627	375
1997	22	11,023	87	114,619	439	364	13	559	21	619	14	58	5	116,219	448
1998	18	10,802	59	103,847	716	254	10	1,011	62	1,032	62	85	3	106,229	724
1999	22	13,738	79	149,504	1,084	488	13	1,009	108	1,666	64	102	13	152,769	1,094
2000	22	12,354	69	98,262	752	410	18	1,449	62	1,457	75	193	31	101,771	762
2001	22	14,772	66	150,766	909	638	15	1,555	105	1,326	37	155	19	154,440	926
2002	22	14,840	56	180,028	844	606	11	1,721	64	5,662	102	551	36	188,568	874
2003	22	15,263	50	223,580	891	1,016	18	1,332	68	1,647	98	249	22	227,824	905
2004	22	18,513	35	262,831	583	792	7	2,661	66	2,103	27	387	12	268,774	905
2005	22	20,977	18	295,496	273	997	3	2,512	24	1,806	12	321	2	301,132	275
2006	20	12,685	16	127,630	183	1,034	3	2,235	15	11,127	37	551	9	142,577	203
2007	22	21,861	23	291,270	335	1,509	4	2,111	24	1,939	23	472	17	297,301	337
2008	22	20,676	27	234,109	338	1,362	10	2,609	21	10,631	49	504	8	249,215	343
2009	22	26,043	35	339,993	524	1,189	7	2,401	29	5,482	27	285	7	349,350	525
Min.	18	10,503		98,262		254		559		619		58		101,771	
Mean	22	16,004		191,054		782		1,793		3,493		292		197,414	
Max.	27	26,043		339,993		1,509		2,661		11,127		551		349,350	

Unknown Fishery															
Year	Days	Days Fished		Sockeye		Chinook		Coho		Pink		Chum		Total	
	Open	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE
1996	-	472	33	4,761	463	24	7	131	37	127	37	4	3	5,047	467
1997	-	1,003	50	3,310	276	0	0	64	14	51	21	4	3	3,429	282
1998	-	921	39	7,562	287	34	5	294	77	196	19	20	0	8,106	301
1999	-	684	20	7,994	352	51	5	76	7	126	2	4	0	8,251	353
2000	-	648	23	5,429	274	44	13	218	60	84	11	24	15	5,799	282
2001	-	1,339	34	12,673	380	188	17	292	30	175	24	90	34	13,418	394
2002	-	1,339	26	14,846	353	166	10	341	25	916	81	54	8	16,323	380
2003	-	1,325	21	15,675	247	238	25	219	14	140	9	88	9	16,360	254
2004	-	1,143	13	13,527	179	99	3	366	25	210	10	25	4	14,227	185
2005	-	270	2	4,520	38	32	1	39	1	40	2	4	0	4,635	38
2006	-	371	2	3,406	34	29	1	47	2	304	16	84	0	3,870	41
2007	-	534	3	6,729	52	37	1	61	3	28	1	6	0	6,861	52
2008	-	618	4	6,890	63	41	2	66	3	412	9	58	3	7,467	64
2009	-	710	6	7,968	84	25	1	144	10	133	4	57	5	8,327	85
Min.		270		3,310		0		39		28		4		3,429	
Mean		813		8,235		72		168		210		37		8,723	
Max.		1,339		15,675		238		366		916		90		16,360	

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Fish Creek Dip Net															
Year	Days	Days Fished		Sockeye		Chinook		Coho		Pink		Chum		Total	
	Open	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE
1996	22	3,749	41	17,260	161	37	8	2,414	25	331	9	153	5	20,195	168
1997	13	991	34	3,277	76	0	0	63	5	53	7	4	1	3,397	84
1998	15	1,141	21	4,036	113	1	0	649	19	80	10	29	2	4,795	117
1999	16	432	16	1,083	138	0	0	17	3	12	7	0	0	1,112	139
2000	16	1,054	25	6,925	211	0	0	958	72	83	12	29	3	7,995	225
2001	3	131	7	436	40	0	0	18	7	2	0	1	0	457	41
2009	7	1,436	8	9,898	73	10	0	53	6	66	3	33	5	10,060	73
Min.	3	131		436		0		17		2		0		457	
Mean	13	1,276		6,131		7		596		90		36		6,859	
Max.	22	3,749		17,260		37		2,414		331		153		20,195	

note: fishery not open 2001–2008

Beluga River Dip Net															
Year	Days	Days Fished		Sockeye		Chinook		Coho		Pink		Chum		Total	
	Open	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE
2008	43			31				35						66	
2009	43			140				78		7				225	

Upper Cook Inlet Personal Use Fisheries Total															
Year	Days	Days Fished		Sockeye		Chinook		Coho		Pink		Chum		Total	
	Open	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE
1996	-	16,606	85	145,545	644	452	12	4,811	56	2,973	50	350	12	154,131	655
1997	-	14,923	114	148,940	592	464	13	777	26	844	27	88	6	151,113	604
1998	-	17,360	84	176,581	1,032	549	14	2,685	102	1,933	70	220	34	181,968	1,043
1999	-	19,752	101	208,589	1,309	1,108	31	1,413	119	2,078	66	168	15	213,356	1,320
2000	-	17,930	88	149,267	961	1,102	28	3,638	114	2,482	86	290	35	156,779	976
2001	-	20,625	86	218,688	1,176	1,138	24	2,637	112	1,821	46	276	39	224,560	1,197
2002	-	21,224	74	259,623	1,092	1,070	17	3,271	91	8,470	149	757	38	273,191	1,136
2003	-	21,668	63	298,831	1,061	1,711	34	2,250	85	2,082	101	371	24	305,245	1,079
2004	-	25,360	43	350,090	678	1,098	9	3,753	75	2,715	32	502	14	358,158	689
2005	-	27,253	21	369,776	311	1,132	3	3,415	29	2,520	17	428	3	377,271	314
2006	-	20,543	20	216,047	236	1,405	4	3,759	27	12,434	41	746	10	234,391	242
2007	-	28,602	29	356,235	386	1,924	5	2,727	26	2,352	24	614	17	363,852	388
2008	-	28,331	34	318,622	412	1,600	11	3,327	24	11,872	52	728	10	336,149	416
2009	-	37,522	45	457,539	629	1,384	7	4,204	45	6,969	34	559	13	470,655	631
Min.		14,923		145,545		452		777		844		88		151,113	
Mean		22,693		262,455		1,153		3,048		4,396		436		271,487	
Max.		37,522		457,539		1,924		4,811		12,434		757		470,655	

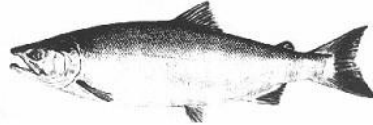
APPENDIX C: SALMON OUTLOOK AND FORECAST

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE



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UPPER COOK INLET
2009 OUTLOOK FOR COMMERCIAL SALMON FISHING
SALMON FISHING

SOCKEYE SALMON

A run of 4.3 million sockeye salmon is forecasted to return to UCI in 2009 with a harvest by all user groups of 3.0 million sockeye salmon. The forecasted harvest in 2009 is about 0.9 million fish below the 20-year average harvest by all user groups of 3.9 million. The sockeye salmon run forecast for the Kenai River is 2.4 million, which is 27% less than the 20-year average run of 3.4 million. However, there is considerable uncertainty in the 2009 Kenai River sockeye salmon run forecast. Age 1.3 sockeye salmon typically comprise about 61% of the run to the Kenai River. The age 1.3 sockeye salmon returning in 2009 are the progeny from an overescapement (1.12 million) into the Kenai River in 2004. A sibling model based upon the return of age 1.2 sockeye salmon in 2008 (193,000; 20-year average: 247,000) predicted a return of 1.8 million age 1.3 sockeye salmon to the Kenai River. While a fry model based upon the abundance of sockeye salmon fry rearing in Skilak and Kenai lakes in the fall of 2005 (41.9 million; 20-year average: 18.5 million) predicted a return of 3.5 million age 1.3 sockeye salmon. The sibling model was used for this forecast because the 10-year Mean Absolute Percentage Error (MAPE) was lower for the sibling model (28%) than the fry model (48%). Age-2.3 sockeye salmon typically comprise about 21% of the run to the Kenai River. A sibling model based upon the return of age-2.2 sockeye salmon in 2008 (107,000; 20-year average: 212,000) predicted a return of 230,000 age-2.3 sockeye salmon to the Kenai River in 2009. The forecasted return is 67% less than the 20-year average return for this age class. The predominant age classes in the 2009 run should be age 1.3 (73%) and

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age 2.3 (9%). The 10-year MAPE for the set of models used for the 2009 Kenai sockeye salmon run forecast was 31%.

The sockeye salmon run forecast for the Kasilof River is 822,000, which is 13% less than the 20-year average run of 945,000. Age-1.3 sockeye salmon typically comprise about 36% of the run to the Kasilof River. The age-1.3 sockeye salmon returning in 2009 are the progeny from an overescapement (575,000) into the Kasilof River in 2004. The forecast for age-1.3 sockeye salmon is 275,000, which is 18% less than the 20-year average return (336,000) for this age class. A smolt model based upon the abundance of age-1 sockeye salmon smolts emigrating from the Kasilof River in 2006 was used to forecast the return of age 1.3 sockeye salmon in 2009. The abundance of age-1 smolts in 2006 was 2.6 million, which is 40% less than the 20-year average abundance (4.3 million) for this age class. However, the forecast for the age-1.3 sockeye salmon return is uncertain because the sibling model predicted a return (443,000) 1.6 times greater than the smolt model. The smolt model was used for this forecast because the 10-year MAPE was lower for the smolt model (10%) than the sibling model (24%). Age 1.2 sockeye salmon typically comprise about 30% of the run to the Kasilof River. The forecast for age 1.2 sockeye salmon is 342,000, which is 22% greater than the 20-year average return (280,000) for this age class. A sibling model based upon the return of age 1.1 sockeye salmon in 2008 was used to forecast the return of age-1.2 sockeye salmon in 2009. About 1,500 age 1.1 sockeye salmon returned to the Kasilof River in 2008, which is 31% greater than the 20-year average return (1,200) for this age class. Age-2.2 sockeye salmon typically comprise about 23% of the run to the Kasilof River. The forecast for age-2.2 sockeye salmon is 129,000, which is 41% less than the 20-year average return (216,000) for this age class. A smolt model based upon the abundance of age-2 sockeye salmon smolts emigrating from the Kasilof River in 2007 was used to forecast the return of age-2.2 sockeye salmon in 2009. The abundance of age-2 smolts in 2007 was 875,000, which is 50% less than the 20-year average abundance (1.8 million) for this age class. The predominant age classes in the 2009 run should be age 1.2 (42%), age 1.3 (33%), and age 2.2 (16%). The 10-year MAPE for the set of models used for the 2009 Kasilof sockeye salmon run forecast was 20%.

The 2009 Susitna sockeye salmon run forecast has been expanded to better represent actual numbers of fish, so the run estimates are substantially higher than those reported in previous forecasts due only to the different method used. The total return estimate has been multiplied by 2 to account for undercounting by the sonar based on the recent mark-recapture studies. The sockeye salmon run forecast for the Susitna River is 669,000, which is 27% less than the 20-year average run of 913,000. Age-1.3 sockeye salmon typically comprise about 55% of the run to the Susitna River. The forecast for age-1.3 sockeye salmon is 260,000, which is 48% less than the 20-year average return (501,000) for this age class. A sibling model based upon the return of age-1.2 sockeye salmon in 2008 was used to forecast the return of age-1.3 sockeye salmon in 2009. About 60,000 age-1.2 sockeye salmon returned to the Susitna River in 2008, which is 63% less than the 20-year average return (163,000) for this age class. Age-1.2 sockeye salmon typically comprise about 18% of the run to the Susitna River. The forecast for age-1.2 sockeye salmon is 201,000, which is 24% greater than the 20-year average return (163,000) for this age class. A sibling model based upon the return of age-1.1 sockeye salmon in 2008 was used to forecast the return of age-1.2 sockeye salmon in 2009. About 5,000 age-1.1 sockeye salmon returned to the Susitna River in 2008, which is 61% greater than the 20-year average return

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(2,100) for this age class. Age-2.3 sockeye salmon typically comprise about 14% of the run to the Susitna River. The forecast for age-2.3 sockeye salmon is 97,000, which is 25% less than the 20-year average return (130,000) for this age class. A sibling model based upon the return of age-2.2 sockeye salmon in 2008 was used to forecast the return of age-2.3 sockeye salmon in 2009. About 42,000 age-2.2 sockeye salmon returned to the Susitna River in 2008, which is 30% less than the 20-year average return (59,000) for this age class. The 10-year MAPE for the set of models used for the 2009 Susitna sockeye salmon run forecast was 33%.

The sockeye salmon run forecast for Fish Creek is 80,000, which is 42% less than the 20-year average run of 139,000. Age-1.2 and -1.3 sockeye salmon typically comprise 77% of the run to Fish Creek. Sibling models based upon the abundances of age-1.1 and -1.2 sockeye salmon in 2008 were used to forecast the runs of age-1.2 (65,000) and -1.3 (4,000) sockeye salmon in 2009. The age 1.2 forecast is 5% less than the 20-year average return (68,000) for this age class, while the age 1.3 forecast is 90% less than the 20-year average return (38,000). The predominant age classes in the 2009 run should be age 1.2 (81%), age 1.3 (5%), and age 2.2 (11%).

The sockeye salmon run forecast for Crescent River is 92,000, which is 8% less than the 20-year average run of 101,000. Age-1.3 and -2.3 sockeye salmon typically comprise 82% of the run to Crescent River. Sibling models based upon returns of age-1.2 and -2.2 sockeye salmon in 2008 were used to forecast returns of age-1.3 (48,000) and -2.3 (28,000) sockeye salmon to the Crescent River in 2009. The predominant age classes in the 2009 run should be age 1.3 (52%) and age 2.3 (30%).

Forecast runs to individual freshwater systems are as follows:

System	Run	Goal
Crescent River	92,000	30,000–70,000
Fish Creek	80,000	20,000–70,000 ^a
Kasilof River	822,000	150,000–250,000 ^b
Kenai River	2,441,000	750,000–950,000 ^c
Susitna River ^d	669,000	175,000–495,000 ^e
Minor Systems	193,000 ^f	N/A

^a Escapement goal includes up to 5,000 fish for broodstock for the hatchery program in Big Lake, however this program has now been terminated by Cook Inlet Aquaculture Association (CIAA).

^b The Kasilof River has an optimum escapement goal (OEG) of 150,000 to 300,000 to facilitate meeting the lower end of the Kenai River goal.

^c The Kenai River is an abundance-based escapement goal; 750,000 to 950,000 is the appropriate in-river sonar goal for a 2 million to 4 million Kenai River sockeye salmon run.

^d The Susitna River forecast has been doubled to account for undercounting of the escapement by the Bendix sonar project.

^e Total estimated sockeye salmon escapement to the Susitna River if the new weir based goals are all achieved.

^f The minor systems component of the run has been reduced to 5% of the total return rather than 15% as in previous years.

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OTHER SPECIES' HARVEST PROJECTIONS

Very little information is available on which to base outlooks for the commercial harvests of the other salmon species. Using recent harvest trends and factoring in the expected intensity of the sockeye-based fishery, the following numbers represent our best estimate of the 2009 harvest:

Pink Salmon	70,000
Chum Salmon	80,000
Coho Salmon	210,000
Chinook Salmon	20,000

REGULATION SUMMARY

Northern District Set Gillnet Fishery

- The Northern District king salmon fishery will open on Mondays on May 25 and June 1 for 6 hours (time period will be established by Emergency Order) and will be open for 12-hour (7:00 a.m. to 7:00 p.m.) fishing periods on Mondays from June 8 through June 24, unless closed by emergency order. The area from an the department regulatory marker located 1 mile south of the Theodore River to the Susitna River remains open for one period only, on the second regular Monday period, this year that period will be June 1.
- Susitna River sockeye salmon were found by the Alaska Board of Fisheries (Board) to be a stock of yield concern. An action plan was developed to conservatively manage the commercial fishery while research continues to better understand the productivity of this stock. The action plan requires the Northern District set gillnet fishery to fish with no more than one net per permit from July 20 through August 6, and the drift gillnet fishery to be restricted for four periods from July 9-31 as per 5 AAC 21. 353, unless the Department determines that the Yentna River escapement goal will be achieved.

Upper Subdistrict Set Gillnet Fishery

- From the beginning of the fishing season through July 7, or until the Kenai and East Forelands Sections set gillnet fisheries open, there is to be a weekly no-fishing window of 36-hours in duration. The Board directed the department to make this a fixed window in time, and to begin it sometime between 7:00 p.m. on Thursdays and 7:00 a.m. on Fridays. The maximum number of emergency order hours that may utilized during this time frame remains at 48-hours per week.
- Use of the Kasilof River Special Harvest Area (KRSHA) should now occur only on rare occasions. The Board directed the department to use its emergency order authority to fish in traditional areas with more time than allowed for in the management plans, if needed, to allow additional harvests if Kasilof River sockeye salmon escapements were likely to exceed the escapement goal. The KRSHA is to be used only in cases when fishing in traditional areas does not provide for meeting escapement objectives.

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Central District Drift Gillnet Fishery

- The Board passed a regulation allowing permit “stacking”. This allows two drift gillnet permit holders to fish on one boat and be allowed to fish a total of 200 fathoms of gear instead of the normal limit of 150 fathoms. Prior to fishing, the boat must be registered (see 5 AAC 21.333).
- After the opening of the set gillnet fishery in the Upper Subdistrict, fishing with drift gillnets may not occur within 1.5 miles of the mean high tide mark of the Kenai Peninsula shoreline in that area of the Kenai and Kasilof Sections of the Upper Subdistrict south of the Kenai River, nor within 1 mile of the mean high tide mark of the Kenai Peninsula shoreline in that area of the Kenai and East Forelands Sections of the Upper Subdistrict north of the Kenai River, whenever the set gillnet fishery in that area is closed.

Single Strand Fishing Gear

- Commercial fishermen in UCI may now fish their full allotment of gear using single strand (monofilament) mesh. No registration with the Department is required prior to using single strand mesh gear.

2009 FISHING STRATEGY

Based on the sockeye salmon run forecast to Cook Inlet for 2009, restrictions during regular periods other than those directed by the management plans, are not anticipated. In the drift gillnet fishery, mandated restrictions require the fishing periods on July 9 and July 13 be restricted to the Kenai and Kasilof Sections and Drift Gillnet Area Number One (Figures 1 & 2). In addition, in runs of between 2 and 4 million sockeye salmon to the Kenai River; two regular fishing periods between July 16 and July 31 will be restricted to the Kenai and Kasilof Sections of the Upper Subdistrict and Drift Areas One & Two (Figure 2). The date these two restrictions will occur on is dependant on how accurate the forecast is and how the season develops.

The use of the Kasilof Terminal fishery is unlikely in 2009.

Northern District Set Gillnet

- The Northern District king salmon fishery will be open for 6-hour Monday periods on May 25 and June 1. The time of these periods will be announced by emergency order. From Monday June 8 through June 24 the fishery is scheduled to occur for 12-hour periods from 7:00 a.m. to 7:00 p.m. unless altered by emergency order. In 2009 the fishery is scheduled to occur for five Monday periods, May 25, June 1, 8, 15 and 22. The area from an the department regulatory marker located 1 mile south of the Theodore River to the Susitna River is open for one period only, on the second regular Monday period, this year that period will be on June 1.
- During the regular season the number of nets from July 20 to August 6 may be reduced to a single net per permit.

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Central District Fisheries

Big River Fishery

The Big River Sockeye Salmon Management Plan was amended to allow fishing in a portion of the Kalgin Island Subdistrict along the western shore from Light Point at 60° 29.00' N. lat., 151° 50.50' W. long. to the Kalgin Island Light on the southern end of the island at 60° 20.80' N. lat., 152° 05.09' W. long.

Upper Subdistrict Set Gillnet Fishery

Kasilof Section Prior to July 8

- The Kasilof Section opens on the first regular period on or after June 25, unless the department estimates that 50,000 sockeye salmon are in the Kasilof River prior to that date, at which time the commissioner may open the fishery, by Emergency Order (EO); however, the fishery may not open earlier than June 20.
- From the beginning of the fishery through July 7 the department may not allow more than 48 hours of additional fishing time per week (Sunday through Saturday) and will try to close the fishery for 36 consecutive hours per week, which will begin between 7:00 p.m. on Thursdays and 7:00 a.m. on Fridays.
- Beginning July 8, or after the Kenai and East Forelands Sections open, the Kasilof Section will be managed in combination with the Kenai and East Forelands Sections.

Kenai, Kasilof and East Forelands Sections

After July 8, or after the Kenai and East Forelands Sections fishing season opens, the following fishing scenarios are possible depending on run strength to the Kenai River:

- If the Kenai assessment shows the run to be **less than 2 million Kenai sockeye salmon**, there will be no more than 24 hours of additional fishing time per week in the Upper Subdistrict and there are no mandatory window closures. If the Kenai and East Forelands Sections are not fished during regular or additional openings, the department may limit regular and additional periods in the Kasilof Section to within ½ mile of shore. After July 15, if the Kasilof escapement is projected to exceed 300,000 sockeye salmon, an additional 24-hours of fishing time per week is available within ½ mile of shore in the Kasilof Section.
- If the Kenai assessment is **between 2 and 4 million Kenai River sockeye salmon**, the Department may allow up to 51 hours of additional fishing time per week and will close the Upper Subdistrict for a 36-hour closed period, which will begin between 7:00 p.m. on Thursdays and 7:00 a.m. on Fridays. In addition there will be a second 24-hour closed fishing period per week to be implemented at the Department's discretion. If the Kenai and East Forelands Sections are not fished, the department may limit regular and extra periods in the Kasilof Section to within ½ mile of shore.
- If the Kenai assessment changes to a run of **more than 4 million Kenai River sockeye salmon**, the department may allow up to 84 hours of additional fishing time per week and will close the Upper Subdistrict set gillnet fishery for a 36 hour period, which will begin between 7:00 p.m. on Thursdays and 7:00 a.m. on Fridays. There are no other mandatory no-fishing windows at

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- this run strength. If the Kenai and East Forelands Sections are not fished, the department may limit regular and extra periods in the Kasilof Section to within ½ mile of shore.
- The Upper Subdistrict set gillnet fishery will close no later than August 15 and all restrictions and additional time regulations from July carry over into August. From August 11–15 the fishery is open for regular periods only.

Central District Drift Gillnet Fishery

- The drift fishery opens the third Monday in June or June 19, whichever is later.
- From July 9 through July 15,
 - ♦ Drift gillnet fishing is restricted for two regular fishing periods to the Kenai and Kasilof Sections and Drift Area One (described below).
- From July 16 through July 31,
 - ♦ In runs of less than 2 million sockeye salmon to the Kenai River there will be two regular 12-hour fishing periods restricted to the Kenai and Kasilof Sections of the Upper Subdistrict and Drift Area One;
 - ♦ In runs of between 2 and 4 million sockeye salmon to the Kenai River; there will be two regular 12-hour fishing periods restricted to the Kenai and Kasilof Sections of the Upper Subdistrict and in Drift Areas One & Two;
 - ♦ In runs of over 4 million sockeye salmon to the Kenai River, there are no mandatory restrictions.
- From August 16 until closed by emergency order,
 - ♦ Drift Areas Three & Four are open for regular periods (Figure 3);
 - ♦ Chinitna Bay may be opened by emergency order.

Drift Fishing Areas

- (1) Drift Area One; includes those waters of the Central District south of Kalgin Island at 60° 20.43' N. lat. (Figure 2);
- (2) Drift Area Two; includes those waters of the Central District enclosed by a line from 60° 20.43' N. lat., 151° 54.83' W. long. to a point at 60° 41.08' N. lat., 151° 39.00' W. long. to a point at 60° 41.08' N. lat., 151° 24.00' W. long. to a point at 60° 27.10' N. lat., 151° 25.70' W. long. to a point at 60° 20.43' N. lat., 151° 28.55' W. long. (Figure 2);
- (3) Drift Area Three; includes those waters of the Central District within one mile of mean lower low water (zero tide) south of a point on the West Foreland at 60° 42.70' N. lat., 151° 42.30' W. long. (Figure 3);
- (4) Drift Area Four; includes those waters of the Central District enclosed by a line from 60° 04.70' N. lat., 152° 34.74' W. long. to the Kalgin Buoy at 60° 04.70' N. lat., 152° 09.90' W. long. to a point at 59° 46.15' N. lat., 152° 18.62' W. long. to a point on the western shore at 59° 46.15' N. lat., 153° 00.20' W. long., not including the waters of the Chinitna Bay Subdistrict (Figure 3).

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SET NET REGISTRATION AND BUOY STICKERS

All Cook Inlet setnet fishermen are still required to register prior to fishing for one of three areas of Cook Inlet: 1) the Upper Subdistrict of the Central District; 2) the Northern District; or, 3) all remaining areas of Cook Inlet (Greater Cook Inlet). Once registered for one of these three areas, fishermen may fish only in the area for which they are registered for the remainder of the year. No transfers will be permitted. Set gillnet permit holders fishing in the Northern District or the Greater Cook Inlet area can register at Department offices in Soldotna, Homer, or Anchorage or by mail. Forms are available at area offices or on the department's homepage at <http://www.cf.adfg.state.ak.us/region2/ucihome.php>. Fishermen wishing to register in the Upper Subdistrict must register in the **Soldotna department office only**, and must purchase buoy stickers at the time of registering.

SEASON OPENING DATES

Season opening dates for the various fisheries around the inlet are as follows:

- *Big River Fishery*: June 1 and continuing through June 24 unless the 1,000 Chinook salmon harvest limit is reached prior to that date. Weekly fishing periods are Mondays, Wednesdays, and Fridays from 7:00 a.m. to 7:00 p.m.
- *Northern District King Salmon Fishery*: May 25. There will be up to five fishing periods, the remaining periods are scheduled on June 1, 8, 15 and June 22. Weekly fishing periods are Mondays only. In that area from 1 mile south of the Theodore River to the Susitna River, there is only open one period during this fishery, which will occur on June 1 in 2009.
- *Western Subdistrict Set Net Fishery*: June 18
- *All remaining set gillnet fisheries except the Upper Subdistrict*: June 25.
- *Upper Subdistrict Set Net Fishery*: June 25 for the Kasilof Section (that portion south of the Blanchard Line) unless opened earlier by EO (if 50,000 sockeye are in the river before the June 25 opener), but will not open before June 20. The Kenai and East Forelands Sections (that portion north of the Blanchard Line) will open July 9. All sections of the Upper Subdistrict will close for the season on or before August 15.
- *Drift Gillnet Fishery*: June 22

GENERAL INFORMATION

The UCI commercial fisheries information line will again be available by calling 262-9611. The most recent emergency order announcement is always available on the recorded message line and catch, escapement and test fishing information is included whenever possible. All emergency order announcements are also faxed to processors as quickly as possible and posted to the Upper Cook Inlet web page at <http://www.cf.adfg.state.ak.us/region2/ucihome.php>. For very general information, we invite you to visit the Commercial Fisheries web page on the Internet at <http://www.cf.adfg.state.ak.us/>. If you would like to receive emails of all UCI commercial

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fisheries emergency orders, please log onto the following site (<http://csfish.adfg.state.ak.us/newsrelease/select.php?dist=SOL>) and click on “Subscribe” and you will be automatically signed up to receive the emergency orders as soon as they are posted to the website.

If, during the summer, fishermen have information or questions concerning the commercial fishery, the Soldotna Commercial Fisheries Division staff can be reached by phone at 262-9368, by fax at 262-4709 or by mail at 43961 Kalifornsky Beach Road, Suite B, Soldotna, 99669.

Latitude and Longitude are based on the North American Datum of 1983 (NAD 83) which is equivalent to the World Geodetic System 1984 (WGS 84).

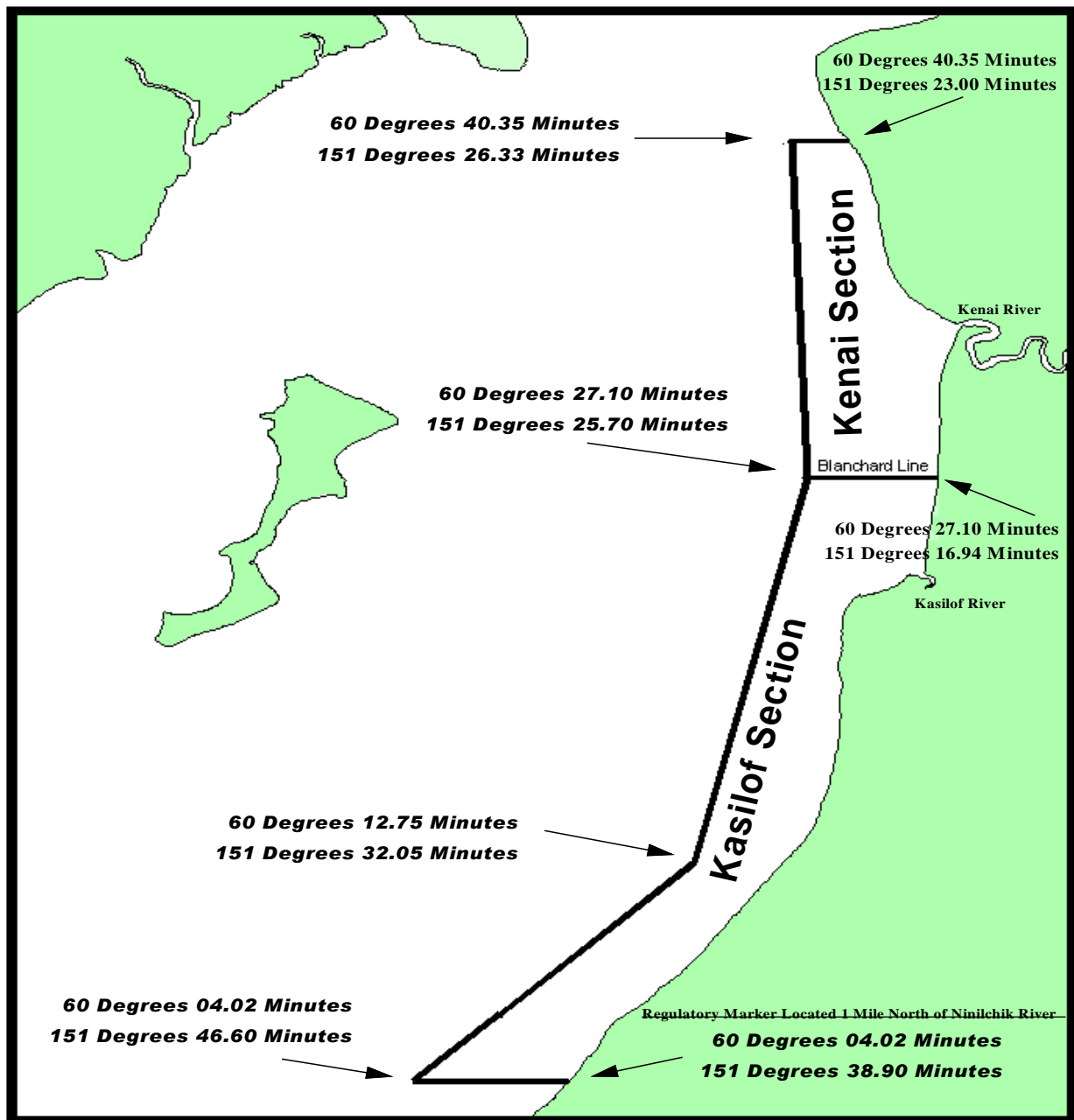


Figure 1. Map of the Kenai and Kasilof Sections with waypoint descriptions.

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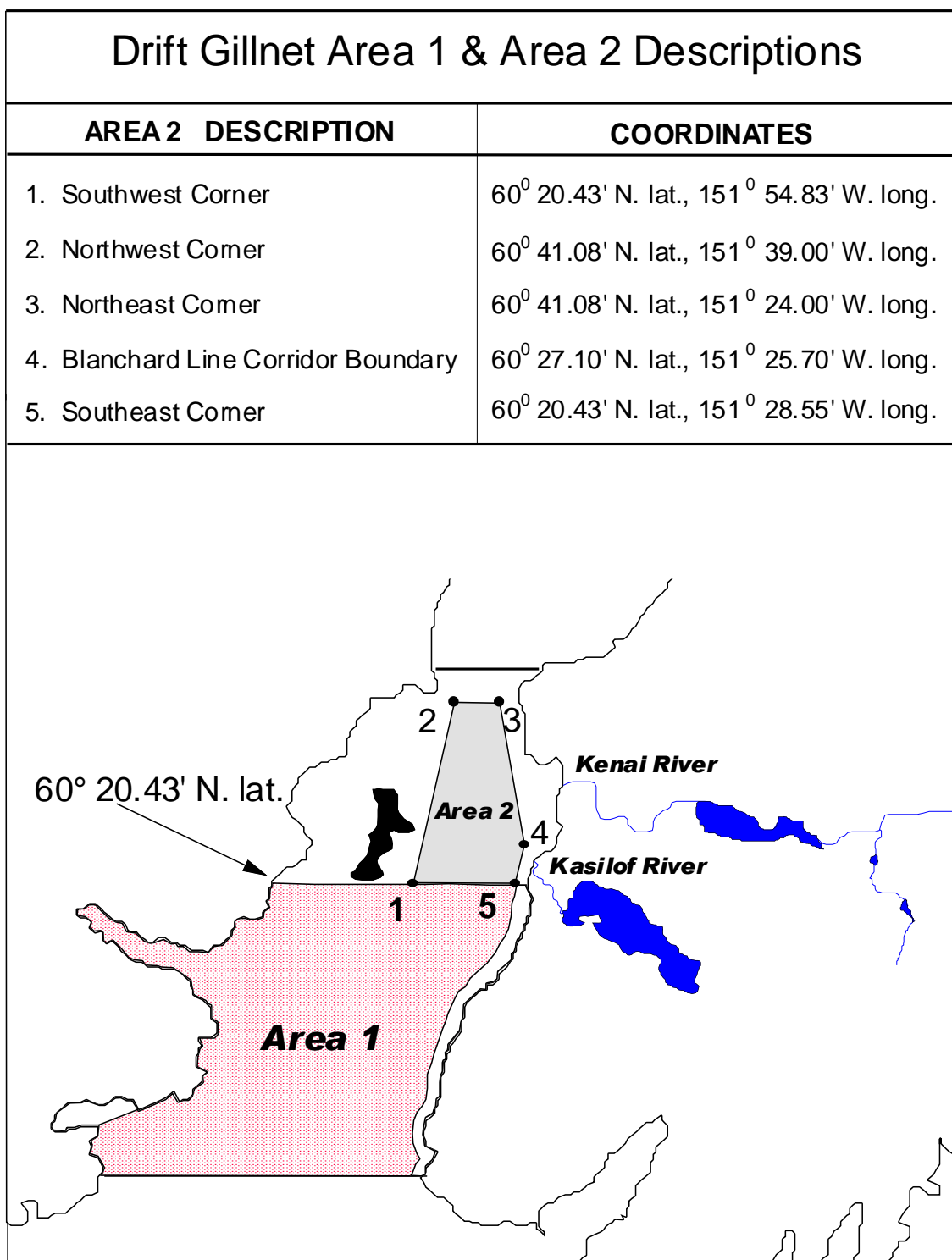


Figure 2. Map of drift gillnet fishing areas one and two.

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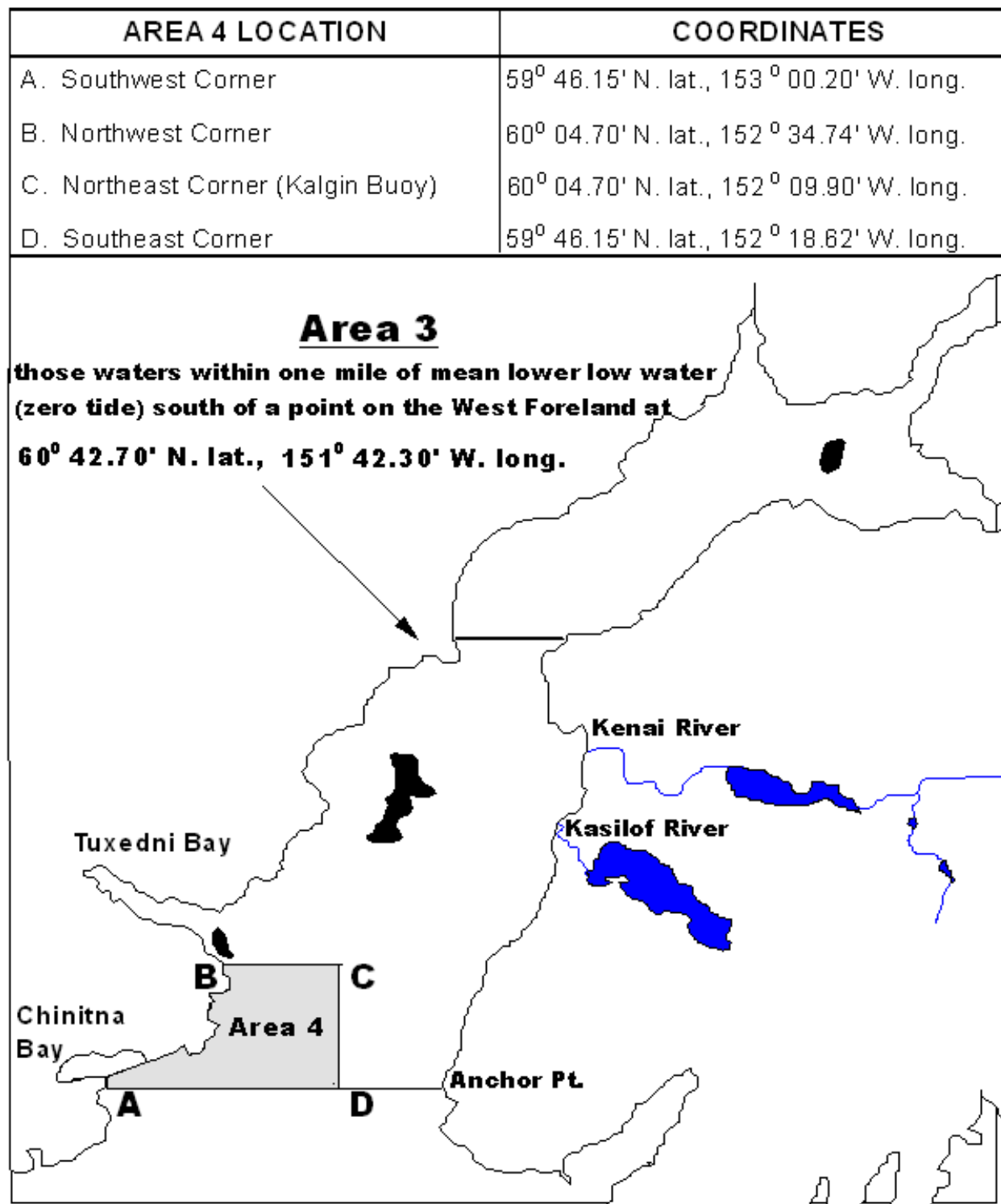
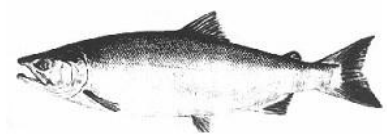


Figure 3. Map of the drift gillnet areas open beginning August 16.

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE



Denby S. Lloyd, Commissioner
John Hilsinger, Director



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Date Issued: 12/29/2009

2010 UPPER COOK INLET SOCKEYE SALMON FORECAST

The preliminary forecast of the 2010 Upper Cook Inlet sockeye salmon run is as follows:

	Forecast Estimate (millions)	Forecast Range (millions)
TOTAL PRODUCTION:		
Total Run	3.6	2.3–5.8
Escapement	1.3	
Harvest	2.3	

Forecast Methods

The major sockeye salmon systems in Upper Cook Inlet (UCI) are the Kenai, Kasilof, Susitna, and Crescent Rivers, and Fish Creek. Spawner, return, sibling, fry, and smolt data, if available, were examined for each system. Four models were used to forecast the run of sockeye salmon to UCI in 2010: (1) the relationship between adult returns and spawners, (2) the relationship between adult returns and fry, (3) the relationship between adult returns and smolts, and (4) the relationship between sibling adult returns. Several forecast models were evaluated for each stock and age class. Models providing the smallest mean absolute percent error (MAPE) between the forecasts and actual runs over the past 10 years were generally used. In most cases, these were sibling models.

The returns of ages 1.3, 2.2, and 2.3 sockeye salmon to the Kenai River in 2010 were forecasted using sibling models. The sibling-model prediction for the return of age 1.3 sockeye salmon was based on the abundance of age 1.2 sockeye salmon in 2009. The reconstructed ocean abundances of Bristol Bay (BB) sockeye salmon was a significant covariate in this model. The

nature of the relationship was consistent with the notion that competition for food between UCI and BB sockeye salmon during the first 2 years of ocean rearing caused more UCI sockeye salmon to return at age 1.3 when BB abundance was high. A spawner-recruit model was used to forecast the return of age 1.2 sockeye salmon to the Kenai River. Smolt models were used to forecast the returns of age 1.2, 1.3 and 2.2 sockeye salmon to the Kasilof River, but the return of age 2.3 sockeye salmon was forecasted using a sibling model.

The return of sockeye salmon to the Susitna River was forecasted using the recent 4-year average aggregate escapement into Judd, Shell, Chelatna, and Larson lakes expanded to the entire Susitna River watershed using mark–recapture abundance estimates from 2006–2008. The total run of Susitna River sockeye salmon to UCI was forecasted using the mean harvest rate estimated from genetic stock composition of the commercial harvest in 2007–2008.

The sockeye salmon forecast for unmonitored systems in UCI was estimated as 5% of the aggregate forecast for the 5 major stocks. The fraction of the total run destined for unmonitored systems was estimated using genetic stock composition estimates from the commercial harvest. The total harvest by all user groups was estimated by subtracting the aggregate escapement from the total run forecast for all stocks. The aggregate escapement was estimated from the sum of the midpoints of the escapement goal ranges for each of the major sockeye salmon producing systems in UCI and the escapement into unmonitored systems (estimated as 5% of the aggregate escapement into monitored systems). The estimated sport harvest upstream of the sonar at river mile 19 on the Kenai River was subtracted from the aggregate escapement into monitored systems. The forecast range was calculated by multiplying the forecast times the upper and lower values of the percent error of the actual runs from published forecast runs from 2000 through 2009.

Forecast Discussion

In 2009, the harvest of sockeye salmon by all user groups in UCI was 2.6 million, while the preseason forecast was 3.0 million. The lower than expected harvest in 2009 was largely due to a weak run to the Susitna River. In 2009, the total run was 2.4 million to the Kenai River, 817,000 to the Kasilof River, 196,000 to the Susitna River, 183,000 to the Crescent River, and 112,000 to Fish Creek. The forecasted run in 2009 was 2.4 million to the Kenai River, 822,000 to the Kasilof River, 669,000 to the Susitna River, 92,000 to the Crescent River, and 80,000 to Fish Creek.

A run of 3.6 million sockeye salmon is forecasted to return to UCI in 2010 with a harvest by all user groups of 2.3 million. The forecasted harvest in 2010 is about 1.7 million fish below the 20-year average harvest by all user groups of 4.0 million. The run forecast for the Kenai River is 1.7 million, which is 45% less than the 20-year average run of 3.1 million. Age 1.3 sockeye salmon typically comprise about 61% of the run to the Kenai River. The age 1.3 sockeye salmon returning in 2010 are the progeny from an overescapement (1,114,000) in 2005. A sibling model based upon the return of age 1.2 sockeye salmon in 2009 (86,000; 20-year average: 238,000) predicted a return of 1.0 million age 1.3 sockeye salmon. A fry model based upon the abundance of fry rearing in Skilak and Kenai lakes in the fall of 2006 (29.6 million; 20-year average: 18.5 million) predicted a return of 2.5 million age 1.3 sockeye salmon. The sibling model was used for this forecast because the 10-year MAPE was lower for the sibling model (27%) than the fry model (55%). Age 2.3 sockeye salmon typically comprise about 16% of the run to the Kenai River. A sibling model based upon the return of age 2.2 sockeye salmon in 2009 (179,000;

20-year average: 190,000) predicted a return of 317,000 age 2.3 sockeye salmon in 2010. The forecasted return is 42% less than the 20-year average return for this age class. The predominant age classes in the 2010 run should be age 1.3 (57%) and age 2.3 (17%). The 10-year MAPE for the set of models used for the 2010 Kenai sockeye salmon run forecast was 29%.

The sockeye salmon run forecast for the Kasilof River is 901,000, which is 6% less than the 20-year average run of 958,000. Age 1.3 sockeye salmon typically comprise about 36% of the run to the Kasilof River. The forecast for age 1.3 sockeye salmon is 324,000, which is 7% less than the 20-year average return (348,000) for this age class. A smolt model based upon the abundance of age-1 sockeye salmon smolts in 2007 was used to forecast the return of age 1.3 sockeye salmon in 2010. The abundance of age-1 smolts in 2007 was 3.1 million, which is 28% less than the 20-year average abundance (4.3 million) for this age class. A sibling model predicted a return of 282,000 age 1.3 sockeye salmon. The smolt model was used for this forecast because the 10-year MAPE was lower for the smolt model (19%) than the sibling model (22%). Age 1.2 sockeye salmon typically comprise about 29% of the run. The forecast for age 1.2 sockeye salmon is 281,000, which is equal to the 20-year average return for this age class. A smolt model based upon the abundance of age-1 smolts (3.3 million) in 2008 was used to forecast the return of age 1.2 sockeye salmon in 2010. However, there is uncertainty in the age 1.2 forecast because the sibling model forecasted a return of 558,000. The smolt model was used for this forecast because the 10-year MAPE was lower for the smolt model (43%) than the sibling model (50%). Age 2.2 sockeye salmon typically comprise about 22% of the run. The forecast for age 2.2 sockeye salmon is 169,000, which is 21% less than the 20-year average return (213,000) for this age class. A smolt model based upon the abundance of age-2 smolts in 2008 was used to forecast the return of age 2.2 sockeye salmon in 2010. The abundance of age-2 smolts in 2008 was 1.1 million, which is 35% less than the 20-year average abundance (1.7 million) for this age class. The predominant age classes in the 2010 run should be age 1.2 (31%), age 1.3 (36%), and age 2.2 (19%). The 10-year MAPE for the set of models used for the 2010 Kasilof sockeye salmon run forecast was 22%.

The sockeye salmon run forecast for the Susitna River is 542,000, which is 41% less than the 20-year average run of 913,000. This forecast was derived from historical aggregate weir counts rather than sonar and age composition allocation models, because recent mark–recapture studies have shown that the Yentna sonar project underestimated sockeye salmon escapement causing estimates of adult returns to also be underestimated. Since this is the first year a weir-based method has been used, no MAPE can be estimated. The 20-year average run was calculated by expanding sonar abundance estimates using mark–recapture and genetic stock composition estimates.

The sockeye salmon run forecast for Fish Creek is 142,000, which is 2% greater than the 20-year average run of 139,000. Age 1.2 and 1.3 sockeye salmon typically comprise 77% of the run to Fish Creek. Sibling models based upon the abundances of age 1.1 and 1.2 sockeye salmon in 2009 were used to forecast the runs of age 1.2 (90,000) and 1.3 (26,000) sockeye salmon in 2010. The age 1.2 forecast is 31% greater than the 20-year average return (68,000) for this age class, while the age 1.3 forecast is 33% less than the 20-year average return (38,000). The predominant age classes in the 2010 run should be age 1.2 (63%), age 1.3 (18%), and age 2.2 (13%).

The sockeye salmon run forecast for Crescent River is 148,000, which is 47% greater than the 20-year average run of 101,000. Age 1.3 and 2.3 sockeye salmon typically comprise 76% of the run to Crescent River. Sibling models based upon returns of age 1.2 and 2.2 sockeye salmon in 2009 were used to forecast returns of age 1.3 (82,000) and 2.3 (48,000) sockeye salmon in 2010. The predominant age classes in the 2010 run should be age 1.3 (55%) and age 2.3 (32%).

Run forecasts to individual freshwater systems are as follows:

System	Run	Inriver Goals
Crescent River	148,000	30,000–70,000
Fish Creek	142,000	20,000–70,000
Kasilof River	901,000	150,000–250,000
Kenai River	1,672,000	650,000–850,000
Susitna River	542,000	
Larson Lake	NA	15,000–50,000
Chelatna Lake	NA	20,000–65,000
Judd Lake	NA	20,000–55,000
Minor Systems	170,000	NA
Total	3,575,000	

Other Salmon Species

The preliminary forecast of the 2010 commercial harvest of other salmon species is as follows:

Commercial Harvest Forecasts	
Natural Production:	
Pink Salmon	305,000
Chum Salmon	70,000
Coho Salmon	179,000
Chinook Salmon	17,000

Forecast Methods

The recent 5-year average commercial harvest was used to forecast the harvest of chum, coho, and Chinook salmon in 2010. The forecast for pink salmon was based upon the average harvest during the past 5 even-numbered years.

Forecast Discussion

The recent 5-year average commercial harvest was used in the forecast, because regulatory changes have substantially restricted harvests of these species in recent years.

For more information contact Mark Willette, Jeff Fox, or Pat Shields at the Soldotna the department office at (907) 262-9368.

APPENDIX D: COMMERCIAL SMELT AND HERRING

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE



Denby S. Lloyd, Commissioner
John Hilsinger, Director



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Date Issued: April 1, 2009

**2009 UPPER COOK INLET COMMERCIAL SMELT (HOOLIGAN)
AND HERRING FISHING SEASONS**

A commercial fishery for smelt (hooligan) was reopened by the Alaska Board of Fisheries (board), beginning with the 2005 season. This fishery occurs in Cook Inlet, in those waters located between the Chuit River and the Little Susitna River (in salt water only). The season is open from May 1 to June 30. Legal gear for the fishery is a hand-operated dip net, as defined in 5 AAC 39.105. The total harvest may not exceed 100 tons of smelt. Any salmon caught must be released immediately and returned to the water unharmed. To participate in this fishery, a miscellaneous finfish permit is required, as well as a free commissioner's permit, which can be obtained from the department office in Soldotna. The commissioner's permit must be obtained prior to applying for the miscellaneous finfish permit.

The Central District Herring Management Plan (5 AAC 27.409) was modified by the board at their 2008 Upper Cook Inlet meeting. The areas open to fishing occur in the Central District of Upper Cook Inlet, including the Kalgin Island Subdistrict, Upper Subdistrict, Western Subdistrict, and Chinitna Bay Subdistrict, as described in 5 AAC 21.200(b)(2), (b)(3), (b)(5), and (b)(6). The legal gillnet mesh size can be no smaller than 2.0 inches or no greater than 2.5 inches. The season is open from April 20 to May 31 with one fishing period per week, to begin on or after Monday at 6:00 a.m. and closes on or before Friday at 6:00 p.m. In 2009, commercial fishing for herring will open at 6:00 a.m. on April 20. In the Upper Subdistrict, the guideline harvest range is 0-40 tons and fishing for herring is not allowed any closer than 600 feet of the mean high tide mark on the Kenai Peninsula. In the Chinitna Bay Subdistrict, the department is to manage for a guideline harvest of 0-40 tons; in the Western Subdistrict, the guideline harvest range is 0-50 tons, and in the Kalgin Island Subdistrict, the guideline harvest range is 0-20 tons.

In the Central District, herring may be taken only by gillnet, as defined in 5 AAC 27.431, except that in the Chinitna Bay and Kalgin Island Subdistricts, herring may only be taken by set gillnets (5 AAC 27.430 (b)). Prior to fishing, all participants are required to register at the department's Soldotna office. Fishermen are also required to report fishing time and the amount of smelt and herring harvested, whether sold or retained for personal use, to the Soldotna office by 12:00 noon of the next day for each day fished. Fishermen are also reminded that fish tickets are to be filled out and either mailed or dropped off at the Soldotna department office within seven days of the time of landing (5 AAC 39.130 (c)). If you intend to sell your catch directly from your fishing site (beach or vessel), you must first obtain a catcher-seller permit from the department.